

The Mining Journal

RAILWAY AND COMMERCIAL GAZETTE

FORMING A COMPLETE RECORD OF THE PROCEEDINGS OF ALL PUBLIC COMPANIES.

No. 1636.—Vol. XXXVI.

LONDON, SATURDAY, DECEMBER 29, 1866.

{ STAMPEDSIXPENCE.
{ UNSTAMPED.....FIVEPENCE.

Mining Exchange, London.

MINING EXCHANGE, LONDON.—As the rules of the Mining Exchange prohibit all its MEMBERS from ADVERTISING MINING SHARES at FIXED PRICES, the Committee feel it their duty to notify that they have no means of offering redress to such of the public as may deal with those advertising shares at fixed prices.
A List of the Members can be had on application to the Secretary.

MR. JAMES CROFTS, STOCK AND SHAREBROKER,

No. 1, FINCH LANE, CORNHILL.
(Established 23 years.)
HOLDERS of mining shares DIFFICULT OF SALE in the OPEN MARKET may find purchasers for the same through Mr. CROFTS' agency. Also parties requiring ADVICE how to act in the DISPOSAL or ABANDONMENT of doubtful mining stocks may profitably avail of Mr. CROFTS' long experience on the market in all cases of doubt or difficulty, legal or otherwise.

Mr. CROFTS is a BUYER of any of the shares enumerated, and whose merits are discussed in his letter of this day week, on p. 387 of the Journal, at the highest market prices, for cash:—West Caradon, Great Wheal Vor, Marke Valley, West Chiverton, Great Laxey, East Basset, Prince of Wales, Wheal Grenville, Prosper United, East Carn Brea, Great South Toigus, North Treskerby, South Condurrow, East Grenville, Clifford, East Russell, Bedol-Aur, East Loval, Chontales, Don Pedro North del Rey, Yudanantana.
Bankers: National Bank of Scotland, Finch-lane.

WILLIAM LANE (SUCCESSOR TO JAMES LANE),

44, THREADNEEDLE STREET, LONDON, E.C. STOCK AND SHARE-DEALER (Established Thirty Years), has FOR SALE the following SHARES:—

10 Chiverton Moor, £25 3/4	10 Great Laxey, £17 1/4	50 New Birch Tor, 6s. 9d.
50 Caldbeck Fells, 11s.	50 Great Vor, £10 1/4	20 No. Crofty, £23 1/2
50 Clifford, £8 1/4	30 Gt. No. Laxey, 28s.	50 Prince of Wales, 27s.
25 Crebor, 13s. 3d.	50 Grenville, 26s. 9d.	50 Quebrada (£10 pd), £1
50 Chontales, £23 1/2	50 Gt. Retallack, 25s.	20 Prosper Utd., £23 1/2
100 Dale, 3s.	3 Herodsfoot, £33.	20 So. Callington, £13 1/2
50 East Grenville, £2 6 3	20 Marke Valley, £4 3/4	50 S. Wh. Grenville, 8s. 6d.
10 East Lovell, £2 1/2	1 Minera, £14 1/2	2 Wheal Buller, £18 1/2
50 East Rosewarne, 12s.	100 Mineral Rights, 11s.	2 Wheal Basset, £60.
10 East Caradon, 6s.	20 North Phoenix, 15s.	5 W. Chiverton, £55 1/2
25 Frank Mills, £2.	25 N. Treskerby, £2 17 1/2	10 West Caradon, £13 1/2

GREAT LAXEY AND WEST CHIVERTON MINES.—Holders of shares in these mines and intending investors will do well to consider the following facts:—
GREAT LAXEY is in 15,000 shares. Deeper level 220 fms. Working at a cost of £2500 to £3000 per month. Dividends hitherto 10s. per quarter, or 12 per cent. on the present price of shares, £17 to £17 1/2.

WEST CHIVERTON, in 3000 shares. Deeper level, 110 fms. Working at a cost of £2500 to £3000 per month. Dividends £2 per quarter, or equal to 14 per cent. on the present price of shares, £53 to £55.

To pay the September dividends of 10s. in GREAT LAXEY, £2500 to £3000 was taken from the reserve, whilst at WEST CHIVERTON, after payment of dividends, extension of grants, &c., the reserve was increased.

Further particulars and other important information relative to both of these mines can be obtained on application to the above.

Clients and parties in the country wishing to dispose of shares will find this advertisement a ready means of doing so, by forwarding me a list of their holding. Approved references given to any part of the United Kingdom.
Bankers: London and County Bank.

MR. LELEAN, ENGLISH AND FOREIGN STOCK AND SHAREDEALER,

11, ROYAL EXCHANGE, LONDON, E.C.
Bankers: Roberts, Lubbock, and Co., Lombard-street.

GUIDE TO INVESTORS.—MR. LELEAN'S STOCK, SHARE, AND FINANCE REGISTER for December contains the fifth of a series of articles on the whole circle of Investments—British and Foreign Stocks and Loans, Bank and Finance, Railway and Insurance, Gas and Water, and Manufacturing and Commercial Shares; with such information as is necessary to guide intending investors amidst the shoals and quicksands of the multifarious species of investments that now present themselves; and a tabulated exhibition of all the dividend mines.

Published by Pottle and Son, 14 and 15, Royal Exchange, London, E.C.

CORNARVONSHIRE CONSOLIDATED (LIMITED).

MR. LELEAN requests attention to his letter, which appears in this day's Journal, p. 846.—11, Royal Exchange, London, E.C.

MR. WILLIAM SEWARD, STOCK AND SHAREDEALER,

19, THROGMORTON STREET, LONDON, E.C.

MR. J. B. REYNOLDS, 70 and 71, BISHOPSGATE STREET WITHIN, LONDON, E.C.
MR. REYNOLDS will be very happy to advise as to the best channels for investment, and caution his clients, and his clients only, against certain prejudicial statements concerning many properties of undoubted merit and long standing.

WILLIAM MICHELL is a DEALER in the FOLLOWING

SHARES, either for cash or the fortnightly settling:—
Clifford. Cook's Kitchen. West Franches.
South Franches. North Crofty. East Carn Brea.
Uny. Prince of Wales. Great Retallack.
East Basset. Rosewall Hill. Providence.
New Tamar. Bryn Gwlog. Westminster.
South Crofty. Wheal Seton. West Loval.
North Treskerby. Great North Downs. Wheal Rose.
East Caradon. Prosper United. Great Wheal Vor.
Great Laxey. Great North Laxey. Wheal Grenville.

NEW TAMAR.—"Z. D."—I have seen the specimens recently arrived from the mine, which are as good as needed, and contain a large amount of silver; the mine is greatly improved, and must ere long command a much better price. I should recommend the shares to be bought.
Apply to WM. MICHELL, 42, Cornhill, London, E.C., Dec. 28, 1866.

GEORGE RICE, SHAREDEALER, 78, OLD BROAD STREET, LONDON, E.C.

(34 years' experience), Member of the Mining Exchange, DEALS in MINING SHARES at close market prices of the day, either as BUYER or SELLER, for cash or account.

Bryn Gwlog..... £13 - £15	Great Vor..... £14 1/4 - £14 3/4
Chiverton..... 6 1/2 - 7 1/4	Great Fortune..... 2 - 6
Clifford..... 8 - 8 1/2	Great Retallack..... 22s. - 24s.
Chiverton Moor..... 4 1/2 - 5 1/2	Marke Valley..... 4 - 4 1/4
East Basset..... 22 - 24	North Crofty..... 3 - 3 1/4
East Chiverton..... 2 - 2 1/4	North Treskerby..... 2 1/2 - 3
East Grenville..... 2 - 2 1/4	Prince of Wales..... 28s. 6d. - 29s. 6d.
East Carn Brea..... 2 - 2 1/4	West Caradon..... 13 - 13 1/2
East Lovell..... 8 1/2 - 9	West Chiverton..... 12 - 14
East Russell..... 2 1/2 - 3 1/4	Wheal Grenville..... 1 1/4 - 1 1/2
East Caradon..... 5 - 5 1/4	Wheal Crebor..... 11s. - 14s.

N.B.—The above shares marked thus * are strongly recommended to be purchased immediately, for a great rise in market value. Most of them can now be bought at a ridiculously small amount, and many of them must rise to their old value, which is hundreds per cent. above the present price. Lose no time, but buy.
Money advanced on mining shares.
Dec. 28, 1866. Bankers: Bank of England.

CHONTALES AND ST. JOHN DEL REY GOLD MINES.

GEORGE RICE deals in these shares, as BUYER or SELLER, at close market prices, and being in possession of most important information as to the prospects of the mines, can advise both speculators and shareholders when to buy or sell to their advantage.—Dec. 28, 1866.

CALDBECK FELS LEAD MINES.—GEORGE RICE

strongly recommends a purchase in these great mines, before shares attain their old price.—December 28, 1866.

MR. GEORGE BUDGE, No. 4, ROYAL EXCHANGE

BUILDINGS, LONDON, E.C. (Established 18 years), has FOR SALE:—
2 Devon Great Consols; 5 Minera; 10 Maes-y-safn; 200 Anglo-Brazilian; 60 Don Pedro; 100 Pestana Gold; 100 West Wheal Kitty; 60 Great Retallack; 5 Rose and Chiverton United; 100 Mineral Rights; 50 Port Phillip; 120 Bottle Hill; 20 Gonnemena; 10 Chiverton Moor; 60 South Grenville; 20 East Carn Brea; 40 Prince of Wales; 200 Frontino and Bolivia; 3 South Franches; 5 St. John del Rey; 10 Caradon Consols; 100 Chontales; 2 Wheal Seton; 30 Crebor; 150 Redmoor; 200 East del Rey; 6 East Lovell; 40 Great North Laxey; 1 Wheal Seton; 25 Frank Mills; 20 North Crofty; 30 South Darren; 10 Marke Valley; 10 South Minera; 10 Park Lead.
Mr. BUDGE is a BUYER of 50 Gawton, 100 East Rosewarne, 150 Hallenbeagle, 20 East Russell, 40 Carn Camborne, 70 South Condurrow, 20 South Callington.

CORNISH AND DEVON MINES.—PETER WATSON'S

"WEEKLY MINING CIRCULAR AND SHARE LIST," &c., of yesterday (Friday, Dec. 28), No. 403, Vol. VIII., price 6d. each copy, contains important information on the following mines:—

West Caradon.	East Pool.	West Chiverton.
North Crofty.	Wheal Seton.	Caldbeck Fells.
East Lovell.	Trumpet Consols.	Stray Park.
Drake Walls.	East Caradon.	South Caradon.
Great Wheal Vor.	Wheal Trelawny.	Clifford Amalgamated.
West Franches.	Prince of Wales.	Frontino and Bolivia.
Wheal Grenville.	Prosper United.	Mineral Rights Assoc.

With important information respecting the Tin and Copper Markets.
79, Old Broad-street, London, E.C.

CORNISH AND DEVON MINES.—ANNUAL REVIEW FOR

1866.—My usual annual review of Cornish and Devon mines will be commenced in my "Weekly Mining Circular and Share List," of Friday, 4th January, 1867, No. 404, Vol. VIII., price 6d. each copy, forwarded on application, and to be continued weekly. Having recently spent over two months in Cornwall and Devon obtaining important information, and being in constant communication with thorough practical agents of mines, &c., some important remarks will be made on the past, present, and future of nearly all the leading divided and progressive tin, copper, and lead mines, pointing out these mines most desirable to speculate or invest in at the present low price of shares.—
PETER WATSON, Stock and Share Dealer, 79, Old Broad-street, London, E.C.
Bankers: The Alliance Bank and the Union Bank of London.

MR. EDWARD COOKE, STOCK AND SHAREDEALER,

76, OLD BROAD STREET, LONDON, E.C.
Has SPECIAL BUSINESS in Chontales, Prince of Wales, East Lovell, Frank Mills, South Darren, and West Caradon.

Shares either for cash or fortnightly settlements.

Stock Exchange securities dealt in at close market prices.

Satisfactory references given in any town in the United Kingdom.
Bankers: Alliance Bank.

MR. C. A. POWELL, SHAREDEALER, 78, OLD BROAD

STREET, and MINING EXCHANGE, LONDON, E.C.
SPECIAL BUSINESS as BUYER or SELLER in West Chiverton, Chiverton, Chiverton Moor, Great Retallack, Prince of Wales, Chontales, Caldbeck Fells, and Frontino and Bolivia. BUYER of West Franches.

Parties having business in the above or other shares will be dealt with at net prices, at a fair margin on the market quotations.

Dec. 28, 1866. Bankers: Bank of England.

MR. JOHN HOSKING, MINING ENGINEER,

(Late of Ashburton, Devon).
MR. HOSKING, having had 30 years' practical experience, OFFERS HIS SERVICES as MINE SURVEYOR, VALUER OF MINING MACHINERY, or to INSPECT any MINING PROPERTY, either at home or abroad. Terms on application.—14, Liverpool-street, London, E.C.

MESSRS. WILSON, WARD, AND CO., STOCK AND SHAREDEALERS,

16, UNION COURT, OLD BROAD STREET, LONDON, E.C.
Can recommend two good mines for investment.

JAMES D. GINN AND CO., STOCK AND SHAREDEALERS,

3, CROWN COURT, THREADNEEDLE STREET, LONDON, E.C.

MR. WILLIAM WARD, STOCK AND SHAREDEALER,

No. 29, THREADNEEDLE STREET, LONDON, E.C.

MESSRS. MCNEILL AND LONG, STOCK, SHARE, AND MINING DEALERS,

31, THREADNEEDLE STREET, LONDON, E.C.

MATTHEW GREENE, STOCK AND SHAREDEALER,

ST. MICHAEL'S HOUSE, CORNHILL, LONDON, E.C.
MATTHEW GREENE is always prepared to deal at close net prices in every description of Stock Exchange securities.

MATTHEW GREENE recommends the purchase of New Tamar, New Clifford, and Westminster shares.

MATTHEW GREENE is a BUYER of any part of 300 shares in New Tamar at 25s. per share.

NEW TAMAR SILVER-LEAD MINE.—See agent's report in this day's Journal. A daily price list of Stock Exchange securities can be had on application.

Bankers: Imperial Bank.

MR. WILLIAM MARLBOROUGH, 1, GREAT ST. HELEN'S,

BISHOPSGATE STREET, LONDON, E.C. (Established 12 years), has FOR SALE the FOLLOWING SHARES, at net prices:—

20 E. Carn Brea, £23 1/2	10 East Caradon, 5s. 10d.	50 Gt. So. Toigus, 9s. 3d.
20 N. Treskerby, £2 16 3	50 Chontales, 1s. 6d. pm.	30 Gonnemena, 13s. 9d.
50 Gt. Retallack, 23s. 3d.	60 Frontino, 2s. (ex call	4 W. Chiverton, £24 1/2
15 Marke Valley, £4 3 9	of 2s. 6d.)	10 W. Chiverton, £24 1/2
5 West Caradon, £13 1/2	50 Caldbeck Fells, 12s. 6d.	30 Prosper United, £18 9
5 Gt. Wh. Vor, £14 1/2	(ex call paid).	4 Wheal Buller, £18 1/2
1 West Seton, £12 1/2	10 North Basset, £5 1/2	1 Wheal Seton, £14 1/2
30 Wheal Ury, 21s. 6d.	50 Pr. of Wales, 27s. 3d.	25 North Crofty, £3 3 9
20 Chiverton Moor, 5s. 1/2	5 South Basset, £5 1/2	10 East Lovell, £2 1/2
11 Clifford, £8 11s. 3d.	50 Mineral Rights, 10s. 6	30 Carn Camborne, 22s.
4 South Franches, £23 1/2	50 So. Grenville, 7s. 9d.	40 Wh. Grenville, 27s. 6d.
35 E. Grenville, £2 8s. 9d.	5 West Franches, £13 1/2	25 E. Providence, 15s. 9d.
30 Wheal Agar, 25s. 6d.	25 Rosewall Hill, 18s. 6d.	50 Crebor, 18s. 6d.
5 Rosewarne, £6s. 9d.	45 Drake Walls, 9s. 9d.	5 Providence, £25 1/2
5 Trelawny, £10 1/2	10 Cook's Kitchen, £7 18 9	10 Grambler, £24 1/2
1 Wheal Basset, £6 1/4	25 Hington, £3 3s. 9d.	25 Gt. N. Laxey, 26s. 3d.
7 Maudlin, 6s.	5 W. Margaret, £4 1/2	5 Dyfnwryn, £7.
40 So. Condurrow, 12s. 3d.	11 Sparrow, 6s.	

MR. G. D. SANDY, STOCK AND SHAREDEALER,

NO. 48, THREADNEEDLE STREET, LONDON, E.C. TRANSACTS BUSINESS in EVERY DESCRIPTION OF STOCK EXCHANGE SECURITIES, MINING and FINANCIAL ENTERPRISES, at close market prices.

Mr. G. D. SANDY recommends the immediate purchase of New Tamar, Lovell Consols, and South Condurrow, as a rapid advance in price is certain to take place early in the ensuing year.

Correct Daily Price List may be had on application.

Money advanced to any amount on legitimate stocks and shares.

References exchanged.

MR. JAMES HUME, 74, OLD BROAD STREET,

LONDON, E.C. (Member of the Mining Exchange),
Executes orders in mining shares at net prices, equivalent to 1 1/4 per cent. commission, and Stock Exchange securities at the usual charge.

All communications punctually attended to, and cash sent on receipt of transfer.

There are a few good mines, the shares of which are at nominal prices, and requiring a very small outlay to secure a good interest. Money invested in such at present may yield 500 per cent. in a few months, with scarcely any risk.

Capitalists should consult MR. HUME.

CHONTALES.—Since Mr. HUME called attention to these shares they have risen 50 per cent., and will go much higher.

GREAT RETALLACK.—MR. HUME is a BUYER or SELLER of these at closest market limits. The shares were recommended by MR. HUME at 5s.

A BUYER or SELLER also of Prince of Wales, Drake Walls, Clifford, Seton, Chiverton Moor, and all other negotiable mine shares.

Holders of shares difficult of sale may have them negotiated through MR. HUME's agency.

Bankers: The London Joint Stock Bank.

MR. WALTER TREGELLAS, 122, BISHOPSGATE STREET

WITHIN, continues to deal, at close market prices, in all good sound DIVIDEND and PROGRESSIVE MINES, either for cash or the account.

BUSINESS in the FOLLOWING MINES:—Great Vor, Trelawny, Emily Henrietta, Cook's Kitchen, New Clifford, East Basset, West Toigus, Camborne Veau, West Franches, Westminster, St. John del Rey, Don Pedro North del Rey, and Chontales.

Has BUSINESS in Anglo-Brazilian, and Frontino and Bolivia.

INVESTMENT, LOAN, AND BANK AGENCY.—

Established 1839.
BANKERS—London and County Bank.

This Agency undertakes the investment of Capital in British and Foreign Government Stocks and Joint-stock Companies upon advantageous terms.

Every information afforded to Capitalists, Trustees, and others, who seek investments of a strictly safe and eligible character.

Loans granted on Stocks and Shares having a market value, interest allowed upon deposits, and every description of Bank and Money Agency business transacted.

CHARLES PETERS, Sec.
No. 12, Clement's-lane, Lombard-street, London, E.C.

MR. CHARLES THOMAS,

MINING AGENT, GENERAL SHAREDEALER, and AUCTIONEER,
3, GREAT ST. HELEN'S, LONDON, E.C.

SALE OF MINING SHARES BY PUBLIC AUCTION.

MR. CHARLES THOMAS WILL SELL, at the London Tavern, Bishopsgate-street, on Thursday, the 3d of January, 1867, at One o'clock precisely, the FOLLOWING, with other SHARES:—

20 South Darren.	100 West Kitty.	20 Central Minera.
5 East Carn Brea.	1 Carn Brea.	40 Bottle Hill.
5 North Pool.	30 Bedol-Aur.	20 Cardiganshire Consols (Limited).
50 Crebor.	10 Great East Lovell.	
50 Maudlin.	40 Great So. Chiverton.	

Persons desirous of offering shares at this sale must give notice of same on or before Saturday, 29th December inst.

Persons desirous of purchasing any of the above shares previously to the day of sale, in most instances, do so on application to the auctioneer, with positive offer.

Particulars and conditions of sale may be had at the offices of the auctioneer, No. 3, Great St. Helen's, London, E.C.; and at the MINING JOURNAL office, 26, Fleet-street, London, E.C.

IN LIQUIDATION.

RE THE NORTH MINERA LEAD MINING COMPANY, 1860 (LIMITED).

MR. CHARLES THOMAS is instructed by the Liquidators to offer FOR SALE BY PUBLIC AUCTION, on Thursday, the 3d of January, 1867, at One o'clock precisely, at the London Tavern, Bishopsgate-street, London, in One Lot, subject to such conditions as will be produced at the time of sale, the MINE, SETT, or GRANT, together with all the MACHINERY and MATERIALS belonging to the above company.

For further particulars apply to the office of the MINING JOURNAL, 26, Fleet-street, London, E.C.; to the agent on the mine; and to the auctioneer, at his office, No. 3, Great St. Helen's, London, E.C.

MR. T. E. W. THOMAS, MINING AGENT AND GENERAL

MINING SHAREDEALER, UNION CHAMBERS, UNION COURT, OLD BROAD STREET, LONDON, E.C.

MESSRS. LANE AND GIBBS, 2, ROYAL EXCHANGE,

LONDON, E.C. (Members of the Mining Exchange), STOCK AND SHAREDEALERS, AND FINANCIAL AGENTS, transact business in all kinds of securities at closest net prices for cash or account.

Parties of respectability can have transfers registered in their names previous to payment.

Daily price list on application.

Bankers: London and County Bank.

MR. JOHN BATTERS, STOCK AND MINING

SHAREBROKER, 13, THROGMORTON STREET, LONDON, E.C.

MR. THOMAS THOMPSON, MINING OFFICES,

12, OLD JEWRY CHAMBERS, LONDON, E.C.
MR. THOMPSON recommends the immediate purchase of Westminster, New Tamar, and New Clifford shares.

SHARES WANTED in the FOLLOWING MINES. State

number and lowest price:—

Providence.	Great North Downs.	Great Fortune.
South Franches.	Kitly (Leland).	
Wheal Seton.	West Franches.	Margaret.
Clifford Amalgamated.	Wheal Jane.	North Crofty.
North Treskerby.	Marke Valley.	Prosper United.

H. B. RYE, Stock and Sharedealer,
77, Old Broad-street, London, and Mining Exchange.—Dec. 28, 1866.

MESSRS. WARD AND JACKMAN,

STOCK AND SHAREDEALERS,
CUSHION COURT, OLD BROAD STREET, CITY, E.C.

Closing prices, Friday evening, Dec. 28.

Buyers.	Sellers.	Buyers.	Sellers.
Clifford..... £ 8 1/2 - £ 9	North Crofty..... £ 3 - £ 3 1/4		
Cook's Kitchen..... 8 - 8 1/4	Providence..... 24 - 26		
East Caradon..... 5 1/2 - 6	South Basset..... 4 1/2 - 5		
East Lovell..... 8 1/2 - 9	Tinicroft..... 12 - 13		
Great Laxey..... 17 - 18	West Chiverton..... 52 1/2 - 55		
Great Retallack..... 1 1/2 - 1 1/4	West Caradon..... 13 - 14		
Great Vor..... 14 1/2 - 15	West Seton..... 120 - 125		
Marke Valley..... 4 - 4 1/4	Wheal Buller..... 17 - 19		
North Treskerby..... 2 1/2 - 2 3/4	Wheal Seton..... 137 1/2 - 142 1/2		
New Tamar..... 1 1/2 - 1 3/4	West Franches..... 12 - 14		
South Franches..... 23 1/2 - 25			

MESSRS. WARD AND JACKMAN advised the purchase of many of the above shares in their remarks a few weeks since, when selling considerably below present prices. They refer their friends to their remarks on p. 847.

MESSRS. WARD AND JACKMAN are prepared to deal for immediate cash, or the fortnightly settlement, in shares of every description.

A Prosperous New Year to All.

Bankers: London and Westminster, Lombury.

MR. T. ROSEWARNE, 81, OLD BROAD STREET,

has business in the FOLLOWING SHARES for cash or "time on":—

North Crofty.	Great North Downs.	Marke Valley.
North Treskerby.	Great Retallack.	Clifford.
*West Caradon.	*East Basset.	Caradon Consols.
East Caradon.	*East Grenville.	Chiverton.

Original Correspondence.

IMPROVEMENTS IN COAL MINING—No. II.

SIR,—We will now pass on to notice the HEAD GEARING, or PIT HEAD FRAMES. The pit "Head Frame" allows of some variety. The one commonly in use twenty years ago was the one with four main massive uprights, tied together by many cross pieces and diagonals. It was set in such a position that the wheel, fixed in the centre of the four pieces on frames, hung over the centre of the shaft. They were constructed as if the whole of the work to be done by them acted vertically from the pulley downwards, without even back "struts;" hence it was so easy, when the engineman wound into the head gear, to pull it over, a not very uncommon occurrence; but as knowledge was brought to bear on the subject, pit head frames assumed a different shape. Four pieces of timber were employed (though I have seen many good pit head frames with only three pieces of timber about them), but there were only two of them vertical; the other two were put in such a position as to be what is called the "resultant" of opposite forces—in the place where the resultant of the force of the load in the shaft acting downwards, and the force of the strength applied to roll the rope on the drum coming over the pulley, thus properly and effectually constructing the "head gear" for its work without the risk of being pulled over. Some engineers put their pulleys so that the axes rest on the uprights—others so put their frames that the pulleys are some 3 or 4 ft. from the uprights down the "struts" or resultants. Where wooden conductors are used the former are best; where rope or iron conductors, suspended from the top, the latter is the best. There are still some monstrous specimens of pit frames to be seen in some of the leading coal fields. I happened one day, not long since, to drop a remark on a head gear to the owner, not, of course questioning it, but it drew from him the remarkable fact "that they had had a deal of trouble with it; the wind had blown it down some three times." They had, however, put a stop to that sort of jesting, for the thing is tied down by wire-rope, like a canvas tent, or balloon previous to its ascent, so that I do not think the wind is going to play them any more tricks with this, at all events. "Pit head frames" are very good indicators of the scientific abilities of the owners or managers.

The ROPE next claims a passing view. As in many other matters, there is a diversity of opinion about ropes, and all that have been in use for ages are still in vogue—the chain, the hempen rope, the iron and steel wire-ropes. The ropes are, again, divided into round and flat. The chain, for coal drawing purposes, is not now very much used, with a few exceptions. If there were nothing else, its weight would preclude its use in deep shafts. The hempen rope, some few years back, seemed doomed to fall into disuse, and be superseded by the iron wire-rope. This was applied at a many places, and was bidding well, had not some of the makers, as is but too frequently the case, substituted an inferior article, in order to get a market for their ill-fated ropes, many of which broke ere they had been in use many weeks, causing serious and fatal accidents; and, as could only be expected, they were looked upon suspiciously, their use dispensed with, and the hempen rope again employed, as being more trustworthy, by many colliery owners. There cannot be a doubt that hempen ropes have their duties and advantages, though, as a rule, are not applicable for drawing from great depths. The wire-ropes are divided into "iron" and "steel" wire-ropes. The latter possesses the same advantage over the former, as it, again, does over the "hemp" rope—the weight for the same strength being much less in the iron wire than in the hemp, and that of the steel much less than in the iron rope. Ropes are divided into "flat" and "round." The latter, again, has the same advantage over the flat, when made of the same material, as the steel over the iron—less weight for the same strength, together with the round ropes not being subjected to the same "wear and tear" by friction. The flat rope coiling upon itself all the way from one end to the other, has a double friction wear. The under side has the pressure by resting on a surface, and then the upper side forms a bed for another coil; so that one side of the flat rope may be said to rest, and the other side to be rested upon.

Here, then, are two very important arguments in favour of the round rope, such as should at once induce us all to adopt its use, did not one of those interventions present itself so frequently come in to deter our sanguine anticipations. In the use of round ropes, we have to raise the load from the bottom with the full radius of the drum against the engine (except with the spiral drum), which means that an engine would not be able to economise its power or do the same amount of work with a round rope drum as with a flat one. The best rope of the day is a good round "steel rope." I have seen one in use two years, and when taken off had no appearance of defects, but was removed on account of having done so much work. This rope was subjected to the most severe tests possible; when new it was 4 in. in circumference, the depth of the shaft 420 yards. The weight of the coal bucket and chains was 2 tons, besides the weight of the rope, though this, the dead weight, did not represent the work done by this rope. The winding-engine was a condensing beam-engine, in not the most complete condition. The diameter of the shaft 7 ft., not walled or cased, except patches in several places. The article to draw the coal in was an iron bucket, in shape just like an ordinary barrel; the diameter of the middle about 5 ft., while that of the top and bottom was 3 ft. 6 in. It was thus shaped so as to prevent it, when coming up, catching under some of the many promontories, so to speak, and when descending to avoid its resting in some of the cavern-like recesses in the side of the shaft. Through a shaft of this sort the steel rope travelled, and drew 2 tons at once, and itself, for two years, working night and day the whole of the time. Considering the amount of work done, and the extraordinary "wear and tear" by lashing against the unprotected rough strata of the sides of this deep, small hole, the rope stood exceedingly well; and wherever the round steel rope can be applied it is preferable to any yet in use.

We will next consider the article, thing, or vehicle that did, and which does, carry or convey the coal up the shaft. Some time ago the division of labour was certainly carried out, so far as regards the thing or things used in the conveyance of coal from where it was dug to the surface. The bucket or basket that carried or contained the coal up the shaft, in many cases went no further than from top to bottom, and some three of these would suffice for one drawing-shaft; one travelling in the pit, one being filled at the bottom, and the other being emptied at the top. These were made of nearly all kinds of material, in form or shape like an ordinary cask, to prevent the top or bottom catching or resting during the traverse of the shaft. This provision only lessened the liability to catch, not entirely prevented it. I remember, during my early experience of this sort of conveyance, my what should otherwise have been "undisturbed hours" were frequently disturbed by a messenger informing me that the "carriage was 'thort' (athwart) the pit." This kind of thing, be it understood, was what the men and boys were put down and drawn up in, and, of course, was as liable to get "thort" the pit with them in it, as in its ordinary travelling up and down the shaft. But, happily, as in all other branches, this barrel-sort of conveyance is out of date, and in a very few places only is it used. To convey the coal to the bottom of the shaft from a certain place was an oblong-box sort of tram, which when it arrived at the shaft was emptied, so that the coal might be filled in the barrel and sent up the pit. There was yet another kind of conveyance for carrying the coal from where it was dug to the tram and emptied to be filled in it. This division of labour was found to be not only an expensive operation in having to re-load so often, but also to lessen the value of the coal very materially. And the next step was to send up the shaft the trams that brought the coal on the roads to the pit's bottom; this made more manifest the necessity for conductors or guides in the shaft, which we will next consider.

Doubtless there were several combined causes to push on the use of GUIDES or CONDUCTORS, in some places called RODS, I suppose from bars or rods of iron being used for guides. Speed, depth, and economy in wear and tear have all played a part in the adoption of guides. All kinds of material have been used as conductors, ordinary chain, bars of iron connected together by links, also screwed into each other like boring rods; this kind of conductors are called "box rods," which make a very good sort of conductor where the depth is not great. The round wire-rope, also, is much used for pit guides, especially in upcast shafts or furnace pits. I have seen wire-rope used for this purpose in a shaft 1290 feet deep. These wire-

rope guides, it is true, were made do, but, on account of the difficulty to tighten them the whole length, there was a great deal of vibration. Standing in an opening or inset 90 feet from the bottom, I have seen the two conductors, when the load has been going up the pit, twist round so far as to be at right angles to their true position, and, of course, could not answer well—indeed, all the chain, iron-rods, and rope conductors, are open to this objection in deep shafts. Of all conductors yet introduced the wood ones are the best. They do away with vibration, and secure a steady motion; should there be any vibration the remedy is of easy application. Wood guides have been used for some time. I see a Mr. Curr, of Sheffield, who lived in the last century, patented a kind of wooden guide, differing though from the present in principle. Mr. Curr's own words are—"These conductors are nothing more than two or three upright rods of deal, 4 in. by 3 in., braggied upon opposite sides of the pit, forming mortises or channels, by which the corves are conducted, being suspended upon cross-bars, with rollers at their ends, which run within the mortises." The cross-bar is still in use in some places, from which the corves or tubs are suspended by chains. This was a fine improvement on the old bucket drawing without any conductors at all; but there were in that the length of the chains from the cross-bars to the tubs for vibration, so that the least oscillation brought the tubs in contact with the sides of the shaft. How beautifully all this oscillation is done away with in the adoption of the cage or chair and wooden conductors. These combined I look upon as a very great improvement indeed. Without them it would be impossible to draw from some of our deep pits. Who, unacquainted with our modern mining machinery, would imagine a pair of cages travelling 226 miles in a day of ten hours? This distance is actually travelled, including time consumed by loading and unloading, in ten hours, at a colliery with which I am acquainted. Nay, even this, gigantic as it appears, is put in the shade by some of the deep shafts in Lancashire, if the information supplied me is correct, and from my observation when there I have no reason to doubt it. There is one colliery where the two cages travel no less a distance than 360 miles per day, or an actual distance of each cage of 180 miles; in this distance the cage is brought to a stand and changes its direction not fewer than 500 times. The time consumed in these stoppages, and that of slackening the speed before stopping, cannot be less than 15 seconds per time, equalling 125 minutes, to which we must add 60 more for putting the workmen down and drawing them up again, making three hours and five minutes, which, deducted from the ten hours, gives us the real travelling speed in the shaft, which is over 51 miles per hour. This may appear exaggeration; but if those who think so would descend one of our deep shafts their ideas would be altered, for the velocity is so rapid that one can scarcely breathe during the descent. I have seen instances of men, old miners, too, refuse to go down, and actually shrink from it, declaring they would never go down. In remembrance, I have heard them say—"No, I am not going to be thrown down the pit!"

Such, then, are some of the improvements in raising coal to the surface. At first thought, a person would really prefer going down in the old swing tub, at a slow speed, to the modern cage and quick speed; but a slight knowledge of the two systems, with the least reflection, will satisfy anyone as to the superiority and safety of the latter. Who that has had experience in the former does not remember being very nearly tumbled out of the corve and sent headforemost down the pit by the corves coming in contact with the pit sides during descent? The cage is not at all liable to this kind of calamity, and a person inside it goes down as smoothly as travelling in a railway carriage. As far as our experience goes, wooden conductors are the best; but I am not sure that iron conductors will not again supersede them—I do not mean the old iron rods, but iron of much stronger dimensions and different shape.

We must now pass on to consider the CAGE or CHAIR. This was a decided improvement. Before the introduction of cages the tubs came up the pit suspended by chains, and the original mode of banking or landing them on the surface was striking the tubs—i. e., pulling them out of the centre of the pit on to the landing-stage, which was a very dangerous operation, and consumed a deal of time too. By this kind of banking many hundreds of people have lost their lives. An improvement on this was the movable platform, sufficiently large to cover the top or mouth of the pit. This was a much safer way of banking, but took a considerable time in doing. The cage has put all these arrangements far into the background for time, simplicity, and safety. I am not aware how we came to use the words cage and chair to this conveyance. It is simply a platform, large enough to hold on the bottom the tubs or corves. I suppose the term cage must have been given to it owing to its cage-like bars on the sides and ends, to prevent anyone from falling out. The term chair may have been given to it on account of the comfort it affords to persons going up or down the shaft, as compared with the swing tub or water bucket. The quantity of coal some of these cages bring up the shaft at one time is enormous. In very deep pits some of the cages will have two and three "tables," or as they are called in Lancashire, "decks." They speak of them as a "two-decker" or "three-decker." There are cages that carry 2½ tons up the pit at one time. There is also another very important point in these cages—they can be made safety-cages—that is, they not only keep people from falling out, but there is an application whereby the cage will not fall down the shaft if the rope should break or become detached. It would be well if all cages had some one or other of these appliances put on ere they were used. I have heard people express themselves disapprovingly of them, but it seems strange how they can do so, for since their introduction, only about 10 years ago, they have saved lives, and prevented many serious accidents. Steel is preferable to iron for making cages, on account of its being much lighter for the same strength, and a well-made cage of angle and T-steel looks very neat. To go into the catches, shunts, levers, &c., connected with cages, would very much swell this paper; indeed, the mechanical department has occupied more space than I intended, so that for the present I must defer this portion, and endeavour to be brief in the other two divisions.

A COLLIERY VIEWER.

(To be continued in next week's Journal.)

SAFETY OF COAL MINES—ANSELL'S INDICATOR.

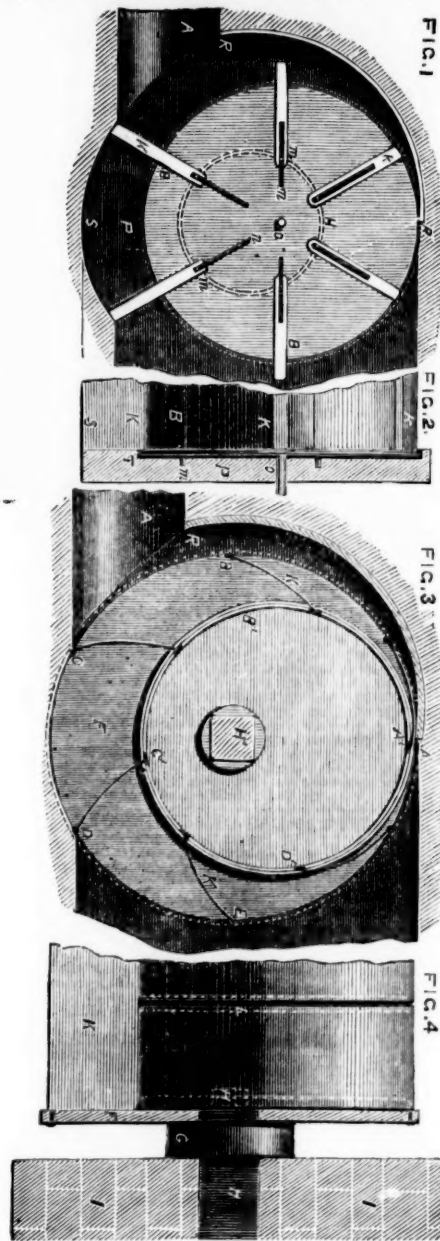
SIR,—I have perused carefully the remarks of your correspondent, Mr. C. Hodgson, and as he has taken upon himself to give his opinion that "M. E." knows little of gas, I think he is worthy of a passing notice. He also contradicts the statement of Mr. Ansell, that "the Davy lamp did not indicate the presence of fire-damp, although his Indicator showed that the air contained 5 per cent. of that dangerous compound." Mr. Hodgson is quite sure that the Davy lamp will indicate gas in a much smaller proportion than 5 per cent. Now, what does all this amount to? Will he kindly inform us, when he first perceives the indication of gas on the lamp, what proportion of gas he has there? He knows perfectly well that he cannot do this, and it is, therefore, to say the least, a little presumptuous to put a loose opinion against the indications of a very nice and intricate scientific instrument. I entirely disagree, also, with Mr. Hodgson's views as to the mode to be adopted in order to ascertain the safety of a coal mine. In his letter of Dec. 8, he says—"I cannot see how it can be so generally employed as to be entirely relied upon for constantly denoting the state of the atmosphere of a mine, seeing that it is not at any particular place where it is required to be denoted," &c. The passage is too long to quote entire, but he says further on—"That it is not in the circulating medium that we encounter danger from explosive mixtures, but in the odd corners, goaves," &c.; and finishes off by alluding to the proposed ventilation of goaves by "persons totally ignorant of mines."

Now, I beg to remark that, in my opinion, the state of the air-currents circulating in a mine are a sure indication of the safety or otherwise of the mine. If this is not the case, coal mining is, indeed, a chaos, and dark and dreary is the prospect before the poor coal miner. Woe! I say to the poor miner who has to work under such conditions as are but too clearly indicated by Mr. Hodgson. In my experience the state of the main and district returns clearly indicate the general state of the mine as to ventilation; and with respect to goaves, various means have been taken with them. At some collieries the return current is passed round them, and the gas is mixed with the return air as it cozes out. In others currents of air are passed through the goaf, which sweep the gas away. If the pit

is well laid out, and the goaves kept entirely distinct from the intake air currents, I do not apprehend any danger from them. Newcastle, Dec. 24. M. E.

IMPROVED VENTILATION OF COLLIERIES.

SIR,—At the present moment, when everyone is feeling great sympathy for the sufferers in the two fearful colliery accidents which have just occurred, every invention calculated to increase the safety of mines is of general interest. I have not sufficient acquaintance with the process of coal mining, or with the many contrivances which are, no doubt, employed to prevent such fearful calamities, or to protect the workers from their own imprudence, but every friend of humanity would, doubtless, rejoice if scientific improvements could be so applied as to make such fearful accidents impossible—or, at all events, less frequent and less disastrous when they do occur. I patented some time ago "Improvements in Atmospheric Railways," and the apparatus employed for condensing and rarefying air is also applicable for the blast-furnace and for ventilating mines. The portion of my patent which relates principally to the above subjects of condensing and exhausting air will be at once understood from the annexed diagrams, of which Figs. 1 and 2 represent my improvements upon the ordinary fan, and Figs. 3 and 4 my improvement upon and simplification of the Lemielle machine.



The general principle upon which my invention is based, is that the air is not wire-drawn as it is in the air-pump passing through valves, nor is it expelled by violent concussions as in the fan-blows, but it is drawn out in a full volume of the density of the tunnel from which it is extracted, and no power is expended in forcing the air through narrow apertures nor in expelling it by a rapid succession of blows. At the mouth of the tunnel A, Figs. 1 and 2, from which the air is to be extracted, or into which it is to be condensed, a hollow drum or cylinder B B is placed, Fig. 1 being a section, and Fig. 2 an elevation showing one end only. The drum revolves on an axis *o o*, which is supported by a cast-iron or wooden frame, P P, at each end of the drum. The dotted circle H H represents a groove cut in the fixed supports in which the drum revolves. This circle is eccentric to the drum, and K K K are fan-blades, which are projected from the drum when passing below it, and drawn into the drum when passing round the highest point in the revolution of the drum. This motion of the fan-blades is effected by means of projecting pins *m m* on the inner edges of the fans running in the eccentric groove H H; *m m* are slits cut through the end casing of the drum to allow the pins *m m* to pass into the eccentric groove H H. The ends of the drum are to be of iron, and to the inside of these end discs metallic slips are attached for the purpose of guiding the fans in their motion into and out of the drum. The casing of the drum may be of metal or wood, and accurately filled out to the circular line B B, &c., but the end discs of the drum will project, as shown by the dotted external circle, and the edges of these discs will be turned true, so as to run air-tight in a recess in the end supports of the drum T T. The end supports P P of the drum extend to the invert, the mouth of the tunnel, and the casing R R, which, together with the portion of the drum farthest from the tunnel from the highest point to the fan in contact with the invert S, constitute the division between the rarefied or condensed air, as the case may be, and the external atmosphere. From the farthest point of the invert from the tunnel to the top of the drum where it is pressed by the casing R, it is open to the external atmosphere, all other parts being closed against it. The drum is driven by steam or other power.

But the machine in which I have the greatest confidence is that which is an improvement upon that of Mr. Lemielle, of Valenciennes, which was recently described in the *Mining Journal*. Fig. 3 is a section, and Fig. 4 an elevation, of one end only, and the fans *k k k* in this case fold round the drum, the fans having the same curvature as the drum. The drum A' B' C' D' is a fixture, and does not revolve as in the former case. A B C D E and F E in section, and F F in elevation, represent two discs, one at each end of the drum. These discs may be made either of iron or wood. The fans, which extend the whole length of the drum, are attached at equal distances to these discs, as at B C D E; a portion of the outer edge of each fan passes through the discs at each end of the fan, and is fitted accurately, but so as to turn round as the direction of the fans changes. When the fans are composed of thin material, as copper, steel, or iron, a stouter piece of iron or steel will extend along the outer edge of the fans, and form the pivots fitted into the discs at

each end of the fans. In order to brace the whole revolving cylinder of fans and discs firmly together, short braces extend from the discs to each side of the rods above described, and attached so as to admit of motion, but no shake. The fans are attached to the fixed drum by two dove-tailed or rectangular grooves passing round the drum, one of which is shown at L, Fig. 4.

The fans are attached to a steel pin inside the groove in such a manner as to keep the fan close to the drum, and also to admit of the change of direction of the fans with reference to the drum. Into the wall I an iron axle H is firmly fixed, and upon which the disc F revolves. This fixed axle is carried beyond the disc at each side, and upon the squared ends H' the drum is built. The wheel G G is attached to the disc F F, for the purpose of turning the discs and fans round. From A B C D the discs run in a groove or recess, and thus constitute the air-tight ends of the machine. The circular cover A R extends from one disc to the other, and, with the tunnel and invert, complete the division between the rarefied air and the external atmosphere. The space A E D is open to the atmosphere.

Should any mine proprietor wish to test my apparatus in the ventilation of his mine, I will supply any further information which he may require, and also supply working drawings, and should the plan prove successful (of which I entertain no doubt), the mine proprietor so testing it will have the free use of it on his works for the whole period of the existence of the patent. To prevent such fearful disasters no expedient offering the slightest chance of success should be left untried. Columns of compressed air of sufficient pressure to drive all foul air out, or a strong current, should be created by the exhausting process.

ALEX. DOULL.

11, Conley-street, Westminster, Dec. 24.

THE ELECTRIC LIGHT IN COLLIERIES.

SIR,—The propagation of dangerous and erroneous theories in connection with colliery operation, by men in such exalted scientific positions as Prof. Tyndall, being calculated to do injury in proportion to the status of their author, it is of paramount importance to all whose lives are dependent upon the safety of the collieries in which they may happen to be employed that the fallacies upon which the Professor's suggestion to employ the electric light in collieries is based should be at once exposed. In the first place, he seems to have fallen into the popular error, that to prevent the ignition of the fire-damp is equivalent to preventing its accumulation; but it is an acknowledged fact that if a working-place is too foul to be worked in with a naked candle it is unfit to be worked in at all; the safety-lamp is only useful to guard against exceptional and unexpected issues of gas. There is little doubt that most of our great explosions are attributable to the use of the safety-lamp having caused increased carelessness.

Prof. Tyndall recommends that the light should be produced by a magneto-electric machine, and states that "The cost of a machine capable of producing this sun-like light would be between four and five hundred pounds. It would remain in good order for I know not how many years, and the expense of working it at the mouth of a coal pit would be next to nothing. The light would illuminate a large area. It could be caused to shine *in vacuo*, and the exhausted vessel containing it might be wholly immersed in cold water, without prejudice to the light; all danger of explosive contact between the light and the air of the mine being thus avoided. The direct rays of this light could not, of course, illuminate tortuous galleries, or surfaces turned from the light. But by bits of looking-glass its rays might be turned in any direction, the reflected rays accomplishing what the direct rays fail to accomplish. In mines of large extent, two or more of these lights might be employed. Possibly also, on account of the difference of refrangibility between it and air, the fire-damp might be actually rendered visible by means of the electric light, and its insidious advance detected. . . . Instead of concentrating the power of the machine on one splendid light, it may be caused to send luminous discharges through glass tubes containing rarefied gases, and these tubes may be employed at the points where the miner works. Their light would be superior to that of the safety-lamp, and their application absolutely without danger. In fact, the safe illumination of coal mines is wholly a question of expense. It is possible to carry into these underground regions the light of day, this light being the transmuted force of the very coal worked by the miner. The only question is, will it pay the coalowner to have the darkness of the mine converted into daylight?"

Now, this is all very well to tell to the visitors at the Royal Institution lectures, but if the Professor intends his remarks for those who practically understand colliery working, he has certainly failed to display that amount of knowledge necessary to secure confidence in his ability to grapple with the subject. The idea of reflecting the light by mirrors through the galleries of a mine is quite impracticable, for in a comparatively small mine there would be 200 or 300 passages to illuminate, and it would not unfrequently happen that air-doors would intervene, so that unless we had glass air-doors the reflective power of many of the mirrors would be seriously interfered with. The glass tubes with rarefied gases are equally inapplicable, because the injury of any one of them would place the whole mine in darkness.—*Newcastle, Dec. 27.*

F. J. H.

COAL MINING IN FRANCE—No. I.

SIR,—The great interest which is attached to the rapid extension of the mining and manufacturing industries of France, and the desire to obtain accurate information thereon, will render the subjoined particulars respecting the coal mining operations in that country of much real value to your readers.

The distribution of the coal deposits of France is highly favourable to their development—there are 46 coal basins, spread over no less than 35 departments; but the extraction of coal does not date very far back—at least, as regards the large workings seriously taken in hand. Here are a few dates at which the working commenced:—

Coal mines of the Nord basin, in activity	1732
" " Saint-Georges	1737
" " Litry (Calvados)	1749
" " Carmaux (Tarn)	1759
" " Vouvant (Vendée)	1759
" " Alais (Gard)	1809

As to the general amount of produce and consumption, we see by the official returns that France produced, in 1864, 11,100,000 tons, of a value of 11 fr. 40 c. per ton; the consumption was 17,600,000 tons, of which 6,500,000 tons were imported from other countries. I shall confine my present remarks to the coal fields of the Nord and the Pas-de-Calais departments. The northern basin of France comprises the coal fields of the departments of the Nord and of the Pas-de-Calais. It is the prolongation of the Belgian coal basin, which is continued to our country after having formed the rich beds of Harbington between Boulogne and Calais. I will first examine only the basin which lies in the department of the Nord. There, from the Belgian frontier to the department of the Pas-de-Calais, from Quévrain, the last Belgian station, to the village of Corcelles, the limit of the arrondissement of Douai, we find twenty concessions, occupying an extent of 116,567 acres, or 182 square miles. Some of these concessions have been transformed, and have been annexed to others. Thus, the celebrated concession of Anzin has absorbed eight of them, covering an extent of 69,321 acres, or 108 square miles. The concessions of the Anzin and other companies as they stand at present show:

Total area of the Anzin Company	69,321 acres
Total area of other concessions	80,403 "
Total area of coal fields of the northern coal basin in the department of the Nord	149,724 "
Or about 234 square miles.	

In that portion of the northern coal basin which lies in the department du Nord there are 22 concessions, extending over an area of 149,725 acres, reduced to nine centres of operation, of which two—Crespin and Marly—have been unproductive since 1840 and 1841. In these 22 concessions 50 pits are open for the extraction of coal—Anzin Company, 25; Aniche Company, 8; Douchy Company, 7; Escarpelle, 3; Helvécelle, 3; Vicoigne, 4; total, 50. Also, I may remark that the Vicoigne Company having amalgamated with that of Neux, at a period when fusions of the kind were permitted, under the name of Vicoigne-Neux, possess at present two coal pits in the Pas-de-Calais—the Neux and Héruie coal mines. The Crespin and Marly concessions possess, the former two pits and the latter three, all in the course of being sunk, and we are not informed as to what

depth they have arrived at present. Also, when I come to speak of the companies of the Pas-de-Calais I shall find many—the Carvin, the Douaisienne, and the Don Companies—which, in the same manner as the Escarpelle, belong to the department of the Nord, but to what extent I am unable to say, as no returns have yet been furnished. I can, however, always obtain the area of that long band of coal fields which traverses the Nord and the Pas-de-Calais departments on referring to the maps of the concessions. If in this country they date so far back as the 13th century, the same is not the case, for the coal fields of the North of France, and the celebrated Anzin Company does not date further back than 1717. The history of this successful company will not be found without interest; it owes its origin to Viscount Jacques des Androuins, a Belgian, captain of dragoons in the French service; it appears, in 1722, under the names of the "Compagnie Desaubeis" and the "Hainault Mining Company," and now it stands as a rich and powerful company, with the title of the "Anzin Company," under the chief direction of M. Lebrét, with as directors men celebrated in the departments of finance, war, and politics—that is to say, M. M. J. Péreire, C. Péreire, Baron A. Lagrange, General De Chasseloup-Laubat, Thiers, Lambrecht, and Lebrét.

The history of this company has been a repetition of that of all struggling inventors—good luck and bad luck. Happily for them, skill, firmness, and perseverance triumphed over all obstacles and every one of the disasters which beset the company at its first starting; so that, at the moment at which I write, it has attained an increased power and wealth sufficient to employ 7000 workmen in the pits, 7000-horse-power represented in the steam-engines, and 500 horses or other quadrupeds for traction; also, eight pump-shafts, furnished with the best engines, for lifting water from the workings. It is the best organised industrial army in all France. The last estimated value of their shares is 6000*l.*; they have never issued a single share in the market nor any obligations, and have always merely given a simple certificate of inscription in the name of the interested parties.

At its origin, in 1717, the company consisted of 24 sols, or shares. These 24 sols were subsequently divided into 288 deniers (12 deniers to each sol), on account of which 100,000 francs (4000*l.*) were paid in per denier, thus raising the capital to 28,800,000 francs (1,152,000*l.*), and the number of shareholders to 288. The last interests and dividends distributed, I am accurately informed, amounted in 1865 to 480*l.* per denier. The form of the company establishes the most complete abolition of the administrative board. There are no meetings of the shareholders, and I may add that there has never been one complaint of the working of the council. Any portion of the profits that the board do not think proper to distribute to the shareholders is added to the reserved fund.

Another feature in the organisation of this company is worthy of remark, owing to its extreme democracy and fairness of dealing. A working miner of the Anzin Company is eligible to fill every post or employment connected therewith. He can become master miner, *porion*, *maitre-porion*, controller, sub-director, and even director of the works. This bond of industrial unity between master and man, or, if we may again term it, this democratic organisation of the working army applied to industry, is so complete that the whole of the staff and labourers of the Anzin Company can vote as one man. With all this freedom, the shares are still increasing in value. The same would be the case even if foreign coal were to enter France free of duty, and thus supply the wants of the North of France manufacturers, as the council of the arrondissement of Lille demanded at their last session, for the Anzin Company has plant and hands enough to be prepared against any competition.

As to the quantity of coal extracted, it was, in 1854, 22,010,000 bushels; in 1863 it rose to 3,578,625 bushels; and in 1865 to more than 33,015,000 bushels. This comprises coal of all qualities, and in that fact lies the prosperity of the company, which can furnish gas-coal, steam-coal, and house-coal. We may also remark that the Aniche, Vicoigne, and Azincourt concessions are very productive, and are worked with all the appliances of modern mechanical science and skill.—*Paris.*

D.

THE IMPORTATION OF CORNISH MINERS AND OTHERS INTO SCOTLAND—WORK FOR THE UNEMPLOYED.

SIR,—I have been a good deal occupied for the past three months in importing Cornish miners for the coal and iron workings in this part of the country, and it affords me pleasure to say the experiment has succeeded admirably; so much so, that there are now about 1500 Cornishmen employed in the different collieries, &c., and all highly gratified with the work and wages. These men, along with their wives and families, have thus been brought from the one extremity of the land to the other. Trade was dull in Cornwall, and brisk in Scotland. Since I entered on this scheme I have carefully and thoughtfully considered the great question of labour, about which I might enlarge considerably, but I fear to take up too much of your valuable space. My object at present is to point out a want which I consider can be ably filled up by such a Journal as yours. In your issue there are weekly reports of all the different markets throughout Great Britain and Ireland, and sometimes, even, of those on the Continent. Why should there not be weekly statements of the labour markets in the same districts? A trade is dull in one place, brisk in another. The master makes his wants known through you, and, as your Journal is circulated everywhere, these wants would, I have no doubt, be copied by the local papers, and so workmen would know where to go to find employment. Communication is now so cheap and rapid that a person can come from Cornwall to Glasgow (about 700 miles) in 24 hours. This is an extreme case. Why, then, should a man stay at home and starve, or be beholden to the charity of others for a meagre and grudging subsistence? It may be said that there is employment in other places, but not in the same trade. This may sometimes be the case. But why should a man always stick to one trade? There are few of the common trades but that a man may learn one or other in six months, and long before that time he would be earning a fair wage. The Cornishmen are an instance of this. They had never cut coal or ironstone in their lives before; their manner of work was totally different from ours, but they were not here a month until they were asking the masters to put them on by contract, instead of the guaranteed wage of 4*s.* per day.

My idea is, if workmen knew where to apply for work fewer of them would emigrate. When they do so, they have many difficulties to contend with, and nearly all have new trades to learn, or the manner of working is so different to what they had been accustomed as to be tantamount to the same thing.

Take the men who are going about London at present, what a dreary prospect they have to look forward to. Why should numbers of these men not seek employment elsewhere? In this part of the country, in the mining districts, there is still plenty of work for those who are willing, and here wages never were so high. One-third of the iron-furnaces in Scotland have been out of blast for more than six months, from want of labour, and there is every prospect that they will be out for some months more from a continuance of the same cause. I believe there is also a demand for labour in the North of England, in the Midland Counties, and elsewhere.

Nothing is so demoralising to an able-bodied workman as to be dependent on the support of others; whereas, whatever little he does renders him independent, and makes him, at the same time, a benefit to his country. If, therefore, as I have already stated, the wants of employers and employees are made known, great good will result to all, and I know of no better medium than the *Mining Journal* for doing so.—*Glasgow, Dec. 27.*

RICHARD BROWN.

COLLIERY WORKINGS—ENGLAND AND PRUSSIA.

SIR,—I beg to offer a few words in regard to preventing accidents by explosions in coal mines, and, being a Prussian mining engineer, allow me to refer you to the means adopted in my country. Prussia holds at present the third rank among the coal-producing countries, surpassed only by Great Britain and the United States of North America. The most important of the Prussian coal districts is Westphalia, which is producing at present about 10,000,000 tons (English) per annum. Fire-damp appears in a great number of the Westphalian mines, in which from 600 to 800 men are working, and the safety-lamp only can be used. The reasons why we never have had such fearful accidents as happened last week at Barnsley and Hanley are for the most part grounded on the fact that we have a more extended system of Government inspection, and accidents which do occur are fortunately not attended with more than two or three sacrifices of life. The number of the Royal Mining Inspectors is so determined that each of them has the view

of about 20 coal mines. The inspection by these officers has only to deal with the safety of the workmen and of the surface, the working of the mines being by no means neglected.

I need not point out here much on the technical part of preventing colliery explosions, because coal mining in England is in a very high degree of perfection, and many ingenious apparatus, many ingenious systems of working, have been introduced from the English coal mines to Prussia; as, for instance, iron tubing in pits, underground stationary engines for drawing the coal waggon, &c. But it is quite indispensable that a sufficient number of Government officers be appointed to see that the necessary precautions are carried out. The Prussian Inspectors have the power to prohibit the working of a mine, partly or entirely, if there be anything dangerous, or if their orders for safety be not served.

As regards the measures taken to prevent explosions a good ventilation is, undoubtedly, the best means of diffusing the noxious gases with a surplus of atmospheric air. The ventilation might be done, according to circumstances, by furnaces or by ventilators, but chiefly by a sufficient number of pits. On each mine there ought to be, as it is prescribed in Prussia, besides the plans of the workings, a distinct plan of the ventilation, so that the inspecting officer can immediately judge whether the latter be good or not. Then, observations ought to be made in all the coal mines with the anemometer, for ascertaining the exact quantity of air passing through the works, and also with the barometer and the thermometer. By the rising temperature at the surface the velocity of the ventilation decreases, and by the falling pressure of the air the development of the fire-damp increases. It is very probable that the appearance of fire-damp in the above-mentioned coal mines has been connected with a very low state of the barometer. I cannot deny that the prevention of accidents by fire-damp in English coal mines, where the seams have a very small indication, might, perhaps, be more difficult than in Westphalia; but a still more extended inspection is required. The trouble of inspection to the colliery owners appears to me very little; and even the expenses which the Prussian mines have to pay for this inspection are not great, as 2 per cent. on all of the value of the produce are paid to the Government, of which 1 per cent. is for inspection, the other for tax. The Prussian officers go once a quarter, at least, to each coal mine, but mostly oftener. In conclusion, one word: in constructing engines, in constructing foundations for buildings, shaft pumps, &c., we take a security of strength twice or often times greater than is actually required; in the same sense we certainly ought to have an abundant security against explosions in coal mines.

Dutton-in-Furness.

PHILIPP WURZBURGER.

LECTURES ON MINING—GEOLOGY AND SLATE QUARRIES.

SIR,—In last week's report of Mr. Warington Smyth's excellent Lectures on Mining a reference is made to slate quarries as investments. His statement that "in most cases vast sums were expended—as much as from 30,000*l.* to 100,000*l.*—before they proved remunerative," may be in the main correct. But it must be borne in mind that these quarries are worked on a very extensive scale, and now pay a profit of from 30,000*l.* to 100,000*l.* per annum, which is an *annual income* equal to the whole of the original expenditure. It must also be admitted they have been started, a great many years ago, in the majority of instances by men who did not profess to have any scientific knowledge, and who were ignorant even of the name of geology. Will Mr. Smyth kindly inform us whether geology by its teachings, in reference to the various stratifications which form the crust of the globe, has not diminished the risk and uncertainty attending slate speculations, and what are the "few tests by which the probability can be determined of there being good slates beneath indifferent material?" A few additional remarks from the able pen of Mr. Smyth would be very acceptable to many who take an interest in his valuable lectures. It is doubtful whether the men to whom the development of slate veins are entrusted in Wales pay any attention whatever to geology.

READER.

WHEAL TREVENNA.

SIR,—In consequence of letters that have appeared in the *Journal* of late from shareholders, respecting the amount of capital called up, and the time we have been at work, being the resident agent from the commencement, I feel it my duty to make a few remarks in reply. I beg to say Wheal Trevenna has not been at work since June, 1864, with a small staff of men, and in consequence of the men, being confined to that number, these eight men could not make much progress in opening and developing a mine. Now, as to the amount of capital called up. I am aware that 8*l.* per share has been paid. This mine is in 1200 shares, and 5*l.* per share was first called up, but are the shareholders aware that 4000*l.* for purchase money, 500*l.* for preliminary expenses, and about 500*l.* for sundries, was taken out of the first called-up capital? By that they will see but a small amount of capital was left to open and develop a mine, in consequence of which we have been working slowly, and in the end, from the commencement. Had such not been the case, in my opinion, Wheal Trevenna would have been among the list of dividend mines long before now.

St. Neot, Liskeard, Dec. 27.

THOMAS JENNINGS.

THE CALDBECK FELSLS MINING COMPANY.

SIR,—I notice a letter in last week's *Journal* from a "London Shareholder," in which he states the local directors carried their point at the recent meeting, not because they held a larger number of shares, but because those they possessed were in small lots. On referring to the memorandum of the meeting, sent out with the call, I find it stated the local directors had 2615 votes, representing 13,215 shares, and the London men 1386 votes, representing 8905 shares. The statement of "A London Shareholder" is simply an untruth, quite in keeping with many more that have lately apparently emanated from the same quarter. The latter part of his letter seems to me unworthy of notice. In the North we know who Sir Robt. Briscoe and his brother directors are, but we know nothing of the London men. The London directors have managed the mine with a vengeance. It is a great blessing to the shareholders that the secretary absconded, or, ere long, at the pace they were going, the capital would all have vanished, and perhaps in a short time some "eminent manager" would announce he had developed a mine, the splendid property, on which 69,000*l.* had been spent, and in keeping it, and now offered it to the public, &c. &c. No, no, Mr. Editor, it won't do; we have got the management here, and mean to keep it. Your London managers don't suit our ideas. We want the mine to pay the shareholders, not to enrich speculators.

CUMBERLAND SHAREHOLDER.

The LLANBERIS SLATE COMPANY has issued a report, preparatory to the third ordinary general meeting of shareholders, which is to be held on Monday next. The tabular statement of work done and force of hands employed, for the twelve months ending Nov. 30, show that the rock cut during the period was equal to 40,572 cubic yards, that 4380 cubic yards were, in addition, opened, and 34,184 dozens of wagon loads of rubbish shifted, which resulted in making 248,200 slates of various sizes, and chiefly from only top rock, which usually goes to the "tips." The force of hands employed varied from 118 to 184 men per month, averaging 155, including rock cutters and openers, rubbish shifters, slate makers, labourers, miners, and mechanics. The accounts show the receipts for the year to have been 15,457*l.* 5*s.*, and expenditure 14,283*l.* 6*s.* 9*d.*, leaving, consequently, a credit balance of 1174*l.* 18*s.* 3*d.*. The balance sheet gives 30,456*l.* 9*s.* 10*d.* as the general amount received, against which 22,211*l.* 10*s.* 8*d.* has been paid for the purchase of the property, and in developing its resources; 1595*l.* 10*s.* 5*d.* for plant, machinery, &c.; 1782*l.* 7*s.* 7*d.* for slate making and opening cuts; and the balance for preliminary, law, and all other expenses, and including the cash in hand, as stated. The Llanberis Slate Company is another enterprise showing good prospects for the future, and giving evidence of equity and good sense in its management. The directors report that the whole of the "fourteen floors" are not yet in full operation, as anticipated, owing to the "top rock" having turned out much heavier than the engineer's statement of "A London Shareholder" has been; but they are enabled to say that "the capital has been entirely expended on the property, no remuneration having been paid to the directors since the formation of the company, whilst the total London expenses have only amounted to about 200*l.* per annum. Ten out of the fourteen floors have, nevertheless, been completed, and upon many of them the making of slates has already commenced, the yield for November having amounted to nearly 80,000 slates." Mr. John Elliott, in his report to the company, declares his conviction that "from the ten cleared floors that will be available we may expect to make next year about 1,300,000 slates of various sizes, which ought to yield a profit of 3000*l.* on the portion of capital employed in slate making. When our fourteen floors are all cleared we shall a mass of slate rock uncovered which it will take 30 years to get out, and from which we may hope to receive back our capital with good interest."

The progress of gold production is at all times a source of much interest, and when such enterprise is closely associated with British energy, it is the more particularly important. The success which attended the old established mine of St. John del Rey led to the formation of one or two other associations a few years since for the same object in the same country, amongst which were the Don Pedro North del Rey and the Anglo-Brazilian, being in close proximity to each other. The mail from the Brazil, which has been delivered since our last publication, has put us in possession of some details respecting both, and it is gratifying to say they are of a most encouraging character. From the Don Pedro North del Rey the returns are the highest ever yet attained, the result for October being no less than 10,061 o*z.*, or 1161 o*z.* troy, which at 8*s.* 6*d.* per o*z.* is equal to 4275*l.* odd, against which the cost and expense in Brazil and England is 2167*l.* odd, leaving, consequently, a profit of 2108*l.*, or equal to upwards of 26,000*l.* per annum, which, on a paid-up capital of 53,313*l.*, is a profit of nearly 50 per cent. The Machine vein appears to be a deposit of the greatest riches, and the manager, in writing home, says—"The best bunch of gold yet found was struck there on Oct. 27, and for three days it yielded splendidly. This bunch may be only one of many others close by; but, be this as it may, we consider it another proof that riches will be found further in the mountain. Our works are in a spur, mining out from the main chain, and it is in the shoulder we expect to find the great gold deposits." There seems every reason to believe the child will come up to, if not exceed, the stature of the father, and Don Pedro North del Rey be not second to St. John del Rey itself in produce and profit. It has been so in other places. South Australia, for instance, as respects copper, where the Moonta has surpassed the Burra Burra, and the Blinman, it is said, will outstrip both the Moonta and the Burra. It is well that it should be so in all such cases. It stimulates energy, and shows how true the old adage is that "there is as good fish in the sea as ever came out of it;" and so in mining, the success of one association does not dishearten another, but, on the contrary, spurs on all, in the hope to gain a similar goal. From the Anglo-Brazilian Mine we learn that the workings for gold during October gave 302 o*z.* troy in excess of September, the produce being 2934 o*z.* troy, and thus the yield was an average of 3260 o*z.* troy of gold per ton. This property has not made the rapid progress of the Don Pedro North del Rey, having been established eighteen months after that company, but it is, nevertheless, going on well, and encouragingly, and there is every reason to believe that great results will be attained in due course.

Annual Review of the Metal Trade.

The year 1866 will long be remembered in the annals of commercial history, as bringing a return of one of those periodical panics which usually happen in this country once in every ten years, and which, though not generally extending over any very lengthened time, yet invariably leave their traces long behind, in failures and ruin to many, and in depression of business and consequent loss to almost all engaged in commercial affairs. Although these panics are thus fraught with so many evil consequences, yet they are not altogether without any good. They generally, also, result in breaking up rotten concerns, in weeding out unsound firms, and destroying unhealthy operations which in the period which has elapsed since the last panic have sprung into existence, but which, as soon as another panic arises, are sure speedily to fall under the adverse influences which it produces. This part of the consequence of a panic is decidedly beneficial, and, like medicine to the diseased patient, is the means of restoring health and vigour to the frame, and a renewal of the vital principle within. Thus it is with commercial panics; they pass over us, and leave apparently nothing but wide desolation behind, but on closer inspection it is seen that they have also removed much that was hurtful and injurious to the system, and restored it to its genuine and proper tone and vitality. At the commencement of the year the appearance of the Metal Market was by no means unfavourable, and it was hoped that a good business would have been done. These anticipations, however, were doomed not to be realised, as the Money Market soon began to assume an appearance of stiffness, and the Bank rate of discount was advanced to 8 per cent.; this had the effect of retarding business, and preventing that improvement which it had been hoped would arise, and the consequence was that the Metal Trade fell into a state of dullness and inactivity, which it has, unfortunately, exhibited more or less during almost the whole year. For a time during the months of February and March, when the Bank rate fell, and money became rather easier, matters seemed about to assume a brighter appearance, and a rather better business was done; but this improved condition of the market did not last very long, as at the commencement of May monetary affairs began again to assume a more stringent character, and soon came the grand crash in the commercial world which had been looming in the distance for some time.

To the utter amazement of the greater portion of the mercantile community, it was announced that the old-established house of Overend, Gurney, and Co. had suspended payment. At the first announcement of this disaster its truth could be hardly credited; no one could at first believe that the house which had stood so long as almost to be considered an "institution," and which had only so recently been turned into a limited liability company, and which had been so favourably received by the public, and in which so many had been eager to take shares, should have encountered, and that the name of Overend, Gurney, and Co., which had so long been an "household word" in the commercial world, should be about to be heard no more; but it was soon found to be too true. Other establishments which had recently stood high also now gave way, and the panic became general. People rushed to the banks to draw out their balances, the streets about the banks became crowded with eager and alarmed individuals, and almost everyone expected that a general run was coming upon all. For a time it seemed as if all confidence was gone, and then were entertained that the result would be most disastrous; and when the directors of the Bank of England announced an advance in the Bank rate to 10 per cent., the alarm was at its height. Fortunately, however, the unfounded alarm soon began to subside a little, and the movement of the Bank directors was seen to be a necessary one; and when it became known that the Government had come forward to help by the suspension of the Bank Charter the panic began to subside, and the public began to look with something like calmness on the whole matter. It then appeared that the panic was not so general as it had been supposed to be, and that matters were not nearly so bad as was at first feared; and from that time the state of things became gradually better, and confidence began to be restored. One very remarkable feature in the panic was the suddenness of its rise, and the almost equal suddenness of its decline, and this has marked it out from some of the other events of a similar character which have formerly come over the country. Nevertheless, though the first alarms soon subsided, yet it was impossible for so great a panic to pass away without leaving most disastrous results; repeated failures continued to take place, and the apprehension that others would follow prevented a perfect restoration of confidence, and caused a general suspension of operations, which, of course, made matters in the Metal Market exceedingly dull and lifeless; and although after a time a little more animation was manifested, yet, on the failure of the Agra and Masterman's Bank, in June, a check was given to business, and returning confidence became again deferred; and it was not until the reduction of the Bank rate, after having remained at the high rate of 10 per cent. for the unprecedented period of three months, that confidence began in any great measure to be restored, and business to assume a brighter appearance. Unfortunately, however, this did not last long, though for a time a very fair amount of business was done, and it was hoped that the remaining portion of the year would witness a return to activity and vigour. This, however, was not to be; soon a returning dullness came over the Metal Market, and notwithstanding the great easiness of the Money Market, and the low figure of the Bank rate, business could not be done; there appeared no disposition to operate, but, held by their orders, and a general dolefulness came over the market, which was continued to exist up to the close of the year, so that the anticipations at the commencement of the year have not been realised, but we see the year closing upon a depressed market, and a state of things very far from encouraging. Two other important events which have occurred during the year must not be omitted to be noticed. The first is the war between Prussia and Austria, which is certainly without exception the most remarkable event which has ever witnessed, and the second is the completion of the Atlantic Telegraph. The former, over one that has relied upon the old standing state of things, and has depended more upon the reputation of its army than on its real efficiency. The rapid and complete success of the Prussian arms, and the sudden humbling of the Austrian power, has indeed taken the world by surprise; and it has shown what can be achieved by the vigour and determination of one mighty intellect, which knows what it desires, and goes directly and unswervingly to the point at which it aims; and although we cannot approve of all that has been done in this matter, yet we cannot but admire the talent and energy with which this campaign was carried out, and all that was aimed at secured. The principal matter of rejoicing is that Venice has been delivered from that power which so long held sway over her, and is now united with Italy, to which she properly belongs. This triumph of freedom is a cause of congratulation to all who love that which is so dear to every Englishman, and it is to be hoped that it may prove of the greatest benefit to the people of Venice themselves, and that Italy may now move on in that course of civil and religious liberty which she has so well commenced. Of course, this war, as is the case with all wars, has had an injurious effect upon trade, having most seriously interfered with our general trade with the Continent, and is a very unfortunate war with the Metal Trade; and although the war was in itself so short, yet the continued unsettled state of matters on the Continent has been most prejudicial to business, and has prevented the usual amount of operations in metals taking place, and up to the present time these unfavourable influences are still in operation. The other event which remains to be noticed is the completion of the Atlantic Telegraph. This is a subject of unlimited satisfaction, and one that stands out prominently amongst the events of the year, as one concerning the benefit of which there can be no question, and which sheds a glory over the persevering efforts of our countrymen, and will remain as a standing memorial of the unceasing energies of all those more immediately concerned in the carrying out and completing of this great and lasting benefit to the two greatest nations upon the earth. About this great work there is nothing to regret, and nothing to detract from its value. It brings into more close connection the two greatest and most powerful nations of the land, and the United States of America, and will doubtless be the means of preventing many of those misunderstandings which have so often arisen between us, and which have so often nearly resulted in war, than which nothing would be more deplorable. It will make us know more of the Americans, and they more of us; and will, without question, also be the means of greatly extending the commercial transactions of both nations, and consequently be of immense importance in mercantile affairs; and we may safely congratulate ourselves upon the final completion of that which we have felt to be one of our greatest necessities. The time when nations will no longer be foolish as to decide their quarrels by war, but will agree to the settlement of their differences by the far more sensible and infinitely less costly way of arbitration.

It is much to be regretted that the present year has witnessed another of those frightful famines which has so fearfully desolated India, and which has been one cause of the present depressed condition of our trade with that empire. It is earnestly to be hoped that some permanent measures will be adopted by Government to prevent a return of this terrible calamity, which not only causes a fearful loss to the natives of India, but also acts most unfavourably upon our trade here. It seems to us that the Indian Government will be greatly neglecting its duty if it does not now actively press those measures which would render almost impossible the recurrence of this fearful visitation.

Upon the whole, the year 1866 has not been one upon which we can look back with much satisfaction; very few bright spots relieve the general appearance of gloom. As far as the Metal Trade is concerned, it is the worst that has been passed over for many years. But it is now nearly gone, and it is useless to look forward over events that have passed away. It is better to endeavour to look forward with cheerfulness to the year about to open upon us—to hail her with welcome, and to cling to the hope that as the past has been so unfortunate the future may be more favourable, and that with the closing year all our difficulties may have passed away, and that the coming year may inaugurate a period of brightness and prosperity which may cause us to forget the gloom and depression of that which has passed.

COPPER.—At the commencement of the year the market for this metal was in rather an uncertain state, some parties expecting that prices would advance, while others considered that the war between Spain and Chili would be speedily settled, and prices, consequently, become lower. In the meantime, however, business was very much suspended, buyers being indisposed to operate in the prevailing uncertainty, and holders not feeling inclined to make any sacrifice; nevertheless, as the supply from Chili must be diminished for some time to come, it was expected that the market would continue firm. The advices from Bombay at this time stated that, under the influence of news from England, copper had advanced considerably in price, and was still looking upward. Notwithstanding this appearance of the market, however, the smelters announced on Jan. 15 a reduction in price of 5s. per ton, making prices 101s. for best selected, 101s. for tough cake, tile, and ingot, and 96s. for manufactured. This fall was not anticipated, as, although it was not probable that the affair between Spain and Chili would last much longer, yet, as the trade had been so much deranged, some time must elapse ere it could return to its former position. To the surprise of everybody, on Jan. 22 the smelters announced another fall of 5s., making prices 101s. for manufactured, 96s. for best selected, and 96s. for tough cake, tile, and ingot. Yellow metal also falling 5s. per lb., making the price 95s. per lb. Prices were now reduced to the same as they were before the blockade of the Chilean

ports. For a short time after this the market became steadier; but, on the arrival of advices from Chili, that although it was expected the war would last some time longer, yet the interruption of our trade was but trifling, the market became quieter, and some business was done under official rates. This state of things continued for some weeks, the market generally remaining in a quiet condition, with steady prices. Upon the reduction of the Bank rate in March the enquiry became better, and prices decidedly firmer; but this improvement did not last long, and on March 21 the smelters announced another fall of 5s. per ton, making prices 96s. for manufactured, 91s. for best selected, and 91s. for tough cake, tile, and ingot; also in yellow metal of 5s. per lb., making the price 90s. per lb. After the reduction of the market became firmer, and the quotations, though by no means active; unfortunately this reduction did not bring orders, and soon sales were effected under smelters' prices. This state of things continued throughout the entire month of April, very little business being done, and that under fixed rates; and, after thus remaining in a drooping condition, on April 20 the smelters announced a reduction of 5s. per ton, making prices 91s. for manufactured, 86s. for best selected, and 86s. for tough cake, tile, and ingot. Yellow metal also fell 5s. per lb., making the price 85s. per lb. This decline was fully expected, and indeed it was a matter of surprise that it had been so long delayed; but, as sales had been previously effected at the same prices, no real change was made in the actual value. The commercial panic happening at this time, the condition of the market for this metal became very flat, and under the then existing circumstances no improvement could be looked for. Towards the latter end of May the market assumed a better appearance, a better enquiry arose, prices became firmer, and there was some hope that the market, having been under a depression for so long a time, would now begin to show signs of improvement. In the month of June, however, the realisation of these anticipations, and the market continued to be dull, and operations trifling—those which took place were under smelters' prices. In July it was anticipated that, should peace be established on the Continent, a better state of things would arise, and a more favourable position of the market be maintained. This did not, however, take place; the market continued very heavy, and the consequence was that on July 16 the smelters declared a fall of 5s. per ton, making prices 86s. for manufactured, 81s. for best selected, and 81s. for tough cake, tile, and ingot. Yellow metal also fell 5s. per lb., making the price 80s. per lb. Sales had, however, been previously made at the same prices, so that no real change was made in prices by this reduction. After the decline, however, the market became a little firmer. This improvement continued, and it became very difficult to buy under smelters' prices, and it was fully expected that, should the money market become easier, a marked improvement would take place. In August, however, the market again became depressed, and it was very difficult to buy at the prices which had been lately ruling. This improvement continued, business was done in manufactured at the smelters' price, and tough cake at 11s. above; soon the smelters declined selling at official rates, an advance of 4s. was made, and an official advance was fully expected, which took place on Aug. 27, when the smelters announced an advance of 5s. per ton, making manufactured 91s., best selected 86s., and tough cake, tile, and ingot 86s. The market continued very firm at these advanced prices, and the price of raw and the smelters did not readily take orders at official rates, and that there was every probability of another advance being announced ere long. Yellow metal also advanced 5s. per lb., the price becoming 85s. per lb. In September the demand continued very active, and prices remained firm at official rates—indeed, some business was done at 3s. or 4s. above these rates, and one of the smelters announced an advance in his make of 3s. per ton, and this it was expected would soon become general. This firmness did not, however, continue very long, the demand having fallen off, and in October the market began to become inactive, and transactions took place under fixed rates. For a time the market varied, sometimes seeming as if it was about to improve, and then again relapsing into a depressed condition, with sales much under the smelters' prices. In November the market at first was a little firmer, and sales of tough cake took place at 8s. 6d., but soon became again very quiet, and the demand very limited. This state of things continued, and at length there seemed to be no buyers at all, and the market fell into a most inactive and depressed condition. The smelters were themselves now selling under their official rates, and from second hands purchases could be made at fully 5s. under fixed prices. It was expected that a decline would have been announced in official rates; but the smelters did not do so, and it seems surprising that they should maintain their quotations in the face of so flat a market. On Dec. 3 the smelters announced a reduction of 5s. per ton, making prices 86s. for sheets and sheathing, 81s. for best selected, and 81s. for tough cake, tile, and ingot. This official reduction had been expected for some time, but as sales had been previously made at a greater decline, sales, however, continued to be made under the official quotations. Yellow metal was also reduced 5s. per lb., making the price 80s. per lb. The market now became firmer, and a considerable amount of business was transacted; manufactured was sold at 8s. 6d., being only 1s. under the official quotation, and a considerable parcel of tough cake at 8s. 6d., being the fixed price, and altogether the market bears a brighter appearance.

IRON.—In Staffordshire at the opening of the year there were not many orders in hand, but the prospect of a demand in the spring was good. Some fears were entertained lest the United States Congress should again raise the duties on the importation of iron, which would seriously interfere with the American demand. On Jan. 10 the first of the quarterly meetings of the Staffordshire ironmasters was held at Wolverhampton. The attendance was small, and very little animation was manifested. The stringency of the money market exercised a chilling influence upon the trade; but, notwithstanding, it was not by any means in an unsatisfactory state, all the principal works being pretty well employed, there was no probability of an advance in price, and the condition of the trade for the next three months was expected to be quiet and uneventful. The ironmasters, however, did not feel disposed to accept of a price which was so low, and were manifesting a spirit of insubordination, and it was feared that, should there be any indication of an improvement in the trade, fresh demands would be made by them. As the month advanced most of the works became fully employed, and the necessity of turning some of the great East Indian railways into double lines was manifesting itself, and tenders were invited by the East Indian Railway Company for about 25,000 tons of rails and railway iron. In February, however, the demand for iron from the United States was so great, that the ironmasters, in order to prevent merchants from ordering in advance of immediate requirements, the Continental orders now became tolerably good; still, although some of the works were fully employed, others were unable to keep on more than four days a week. In March no improvement took place, and the orders for finished iron were not so large. Many of the second-class makers became short of orders, and even at the larger works the men were not in all cases making full time. No improvement in the demand was expected until the close of the current year, but it was hoped that the reduction in the rate of discount would give an impetus to the demand after the end of the month. In April the demand for manufactured iron was not much changed; but two large contracts for rails, &c., for Russia, amounting to about 48,000 tons, all for delivery during the year, helped to strengthen the market. There was a steady demand for home consumption, also for India and the Continent; and it was anticipated, as no alteration had been made in prices, that orders would be sent in for next quarter. At the quarterly meeting of the Staffordshire ironmasters, held at Wolverhampton on May 31, it was generally admitted that the trade was dull; but, though there was nothing like animation, yet a fair amount of business was being done in all descriptions of manufactured iron. The principal firms professed to adhere closely to the regulation prices, but the second-class houses accepted orders at prices to a great extent dependent on how far they might stand in need of them, and some of them appeared very eager to obtain contracts. The demand on the part of export houses was moderate, except for America, for which country a fair amount of business was being done. The principal feature of the meeting was Birmingham was the amount of business done in pig-iron, which was very much larger than usual; prices were remarkably firm, and the eagerness to buy displayed by consumers led to the inference that their stocks were low, and that the trade was much more active than it had been represented. Towards the end of the month the principal ironmasters were fairly supplied with orders, but the second-class makers continued not fully employed, and the high price of pig-iron prevented them from attracting orders by making the great reduction in prices which they ordinarily do from the prices of the leading makers. Contracts were now invited for 11,000 tons of rails for New Orleans, and it was hoped that this might be followed by extensive orders from that part of the United States. In May the trade became affected by the general depression in business; but at most of the leading works there was a moderate supply of orders for the Continent, the East Indies, and South America, and the home orders were tolerably good, though for the United States the demand continued very limited. Fortunately, the monetary crisis did not seriously affect Staffordshire, beyond curtailing profits and inducing caution. A meeting of the Staffordshire ironmasters was held at Birmingham, on May 31. The attendance was large, but the business transacted was merely nominal. The trade was considered to be in an unsatisfactory state, and there was no prospect of an early improvement. In June the demand was very slack, and few of the works in full operation, and they were generally only turning out about half the usual quantity of iron. This state of things continued throughout the month; but, notwithstanding the depression of the trade, there was no idea of a reduction in prices, as the smelters were prepared to contend the question of wages. It was believed that orders now held back would be given out after the quarterly meeting, and that should confidence be restored in India many orders would come in. At the quarterly meeting held at the beginning of July it was determined to adhere to the present fixed prices; the trade was, however, very dull, and very few orders were coming in. Needy makers, in order to keep on their works, now accepted lower rates in some cases, and were generally supposed to be working at a loss. The reduced demand for finished iron greatly diminished the consumption of pigs, so that in many cases the deliveries under old contracts would extend for some time into the next quarter. The trade continued to show no indication of recovery—in fact, as all orders of large amount were, with few exceptions, worked out, the want of fresh orders was more felt, and the works generally were not making more than half time, and in the state of the money market then existing no one ordered beyond what was necessary for immediate wants. In August there was still no improvement, and the trade was more depressed than it had been for years. It was hoped that the conclusion of peace on the Continent might lead to the resumption of orders, and that the delay in passing the United States Tariff Bill would cause more orders to come from that quarter. In the course of the month, however, more orders were received from the Continent than for some time, and there were signs of improvement in the demand for the United States. The works, however, continued generally slack, and the distrust which recent failures had occasioned operated to prevent transactions between the different departments. Towards the latter end of the month the slight improvement continued, but the orders did not suffice to keep the works at more than half time. There was, however, a confident expectation that the pacific news from the Continent, and the relaxation in the monetary pressure, would lead to orders being given out which had been kept back. In September there was a steady though not rapid improvement in the demand, which is particularly experienced by the leading makers. Orders for India were generally better, and the East Indian Railway Company advertised for tenders for 17,500 tons of rails, and adding chairs, fishing-plates, &c., amounting to 25,450 tons, which would tend to strengthen the market. In October, after a long time, the no alteration was made in prices, it was expected that orders which had been kept back upon the possibility of a reduc-

tion taking place would be given out. There were rather more orders for bars and plates, from buyers who had usually supplied their wants from the North, where the works were standing; few works, however, were doing more than three days work per week. The main appearance was a continuation of the depression, and the masters were not disposed to enter into a contest at the time. There was a fair demand for Canada and the United States, and orders coming from India were of a slightly improved character. In the course of the month, however, the trade became again dull, and short time all but universal. The depression of the shipping trade had greatly reduced the demand for plates in South Staffordshire, although the greater plate-mills of the North of England were at a standstill, on account of the wages dispute. The demand for hoops and sheets, however, was good, and there was a better enquiry for iron for machinery purposes. Orders from the United States, though not by any means large, came by almost every mail; and soon the leading makers were doing more than they had been. The second-class makers, however, continued very slack, and the difference between their prices and the list rates was very considerable. In November only a few orders were coming in for home consumption, but for the United States they continued on a fair scale, but were quite inadequate to keep the works in full operation, and little more than half time was made on an average throughout the district, though a few of the large makers at the time employed. As the month advanced the trade became very dull, and only some of the larger manufacturers, who had an established connection with merchants and extensive home consumers, and whose brands were esteemed, continued to receive orders. There now seemed no chance of improvement before the close of the year. About this time an advertisement appeared for 1000 tons of Staffordshire iron for the Bombay, Baroda, and Central India Railway Company. A steady flow of small orders now occurred, which were of some service in proving that stocks were very low. The works, however, were not doing more than three or four days a week. The question of reducing the wages of the men was again mooted; and, as the men in the North of England had at length submitted to this, and the masters in South Wales had given notice of a similar reduction, it was thought that the question of wages need not prevent lowering the price of iron, should it seem desirable as a means of stimulating the demand, and there now seems little doubt that a reduction of wages will take place at the end of the month.

In Welsh, at the commencement of the year the trade ruled generally firm, and the ironmasters looked forward to an active demand in the spring. Orders on American account came in freely, and the demand from the foreign markets was maintained. Most of the old orders had been cleared off the books, and several new contracts on foreign account were in course of execution. The result of the quarterly meetings in January imparted a certain degree of increased confidence, and there was every probability that prices would be maintained during the quarter. Only a small quantity of iron had been sent to America; but it was expected, if remittances for past transactions were duly received, that the spring would witness considerable shipments to that country. In February the trade was moderately satisfactory, the ironmasters were well off for orders, and the works were generally in active operation; list prices were fully maintained. Business on American account was somewhat more animated, but still cautious was exercised by shippers, and the demand was too heavily on speculation. A moderate business was done on French account, and the other continental markets were taking average quantities. Towards the close of the month orders were received on South American account which had been kept back. In March, although but few orders were coming in, the specifications on hand enabled the makers to keep their works in constant employment. The reduction in the rates of discount was expected to act as an inducement to buyers, who had hitherto only given out orders to supply their immediate requirements, to enter into engagements more freely. There was a fair business done with India, and shipments of rails were made to Mexico, and the trade with South America was tolerably good. The reduction in the Bank rate was expected to considerably increase orders both on foreign and home account. The demand from the East was more active, and some large contracts were expected to be given out for the East Indian railways. Towards the close of the month the trade became comparatively quiet, and great uncertainty prevailed as to the future of the American trade. In April a moderate amount of business was done, but the makers' books were not so full of orders as was expected. Speculations came in a little more freely on foreign account, and hopes were entertained that the American markets would in a short time become more active. Important contracts for Russia for railway iron were expected to be given out, in which it was expected that South Wales would have a share. After the meeting of ironmasters the trade became firmer, and the maintenance of prices gave greater confidence in business. The enquiries on American account were numerous, and business with Canada and other British North American provinces was improving. A steady business was being transacted with the continental markets, with a better enquiry, and the shipments of railway iron to Mexico and South America were satisfactory. In May the improvement was checked by the monetary panic, and buyers only gave out orders that were pressing. In the foreign trade, however, business assumed a healthier tone, and the indications as to the future were more encouraging. American orders came in more regularly, and contracts were invited for about 1,000 tons railway iron for New Orleans. Although the works were kept fairly going, yet business generally suffered from the threatened aspect of political affairs abroad and the recent financial collapse. Together with the state of the money market; all which combined to keep trade much more quiet than was expected at the commencement of the quarter. Buyers on home account were very cautious on giving out orders; but as their stocks were nearly exhausted, it was expected they would find it necessary to enter the market ere long, whether makers submitted to a reduction in prices or not. As the month advanced there was no prospect of improvement, and matters became more gloomy. Great uncertainty existed as to the future. In consequence of the fear of war, and the state of the money market, the mills and furnaces, however, were kept pretty well going on old orders, and considerable quantities of rails were shipped for the markets up the Baltic and to the East. It was soon found, however, that the financial panic had not affected the iron trade to the extent that was expected, and confidence was felt as to the soundness of the trade, but still business was considerably checked; still the advices from foreign markets were favourable, and a fair business was being done. In June considerable shipments of railway iron were made to America, and the demand for the advices from the United States were more cheering; very little business was done with the markets of Southern Europe. Some transactions took place on home account, and a more hopeful feeling was springing up as to the future. It was known that there were plenty of contracts to be given out, and stocks were low both at home and abroad, but the high rate of interest kept buyers from giving out their orders. The threatened war on the Continent had led to the withdrawal of several orders which were in the market from Southern Europe. As the month advanced consumers still showed unwillingness to enter into transactions, and the small amount of business done was entirely free from speculation. Some makers showed a willingness to submit to a decline in price, but as a rule no material alteration occurred. Towards the close of the month no transactions of any moment took place, and orders were not expected to be given out until after the quarterly meeting of ironmasters. In July the demand for iron still continued dull, and the few orders which came to hand were chiefly from the foreign markets. The works were, however, kept fairly going on old orders. The exports of railway iron were not so large as in the previous months of the rates of freight. In consequence of the stagnation in trade, the ironmasters now gave notice to the men in their employ that present engagements would terminate in one month, which the men received in a good spirit, feeling that it was better to submit to a reduction in wages than that the works should be closed altogether. The unexecuted orders on the books now got very low, and but few transactions took place on home and foreign account—in fact, the trade was in a state of extreme crisis, and the ironmasters, makers had arrived at such a serious crisis that, under the circumstances, makers had no other course left open to them than a reduction in wages. Towards the close of the month the trade still remained quiet, and at one or two of the works many of the hands were discharged. Several contracts were still under execution for America, Russia, and the East, but these were nearly worked up, and unless new engagements were entered into shortly it was expected that many more men would be discharged. In August, in anticipation of a permanent peace in Germany, and the hope of a reduction of the rate of discount, the ironmasters held a meeting, to reconsider the notice that had been given to the men, and a reduction in wages; and after careful consideration, it was agreed that the wages of all the men employed at the works should continue to stand as heretofore. This result gave the greatest satisfaction to the workmen, and was the means of keeping at home a large number of the most skilled workmen, who, in anticipation of the reduction being carried out, were making preparations for emigrating to the United States. Still no great improvement took place in the trade, but there were indications that before long orders would come in more freely, especially from America, the East, and Northern and Southern Europe. Upon the intelligence from the United States that the Tariff Bill was to be postponed until December, it was expected that a fair trade would be done with America in the interval. On the reduction of the Bank rate, a slight improvement took place in the receipt of orders, and it was hoped that some animation would be diffused into home transactions. The foreign trade also looked more hopeful, and some few orders came in on American, Russian, and German account, and there were indications that before long a large business would be secured from these quarters. With the South American markets a fair trade was now being done, while the North American transactions were of a favourable character. In September, on the further reduction of the Bank rate of discount, it was fully expected that the large buyers and the railway companies, who had been keeping back their orders for the last two or three months, would now place them upon the market, and the consequence was that there was a greater amount of confidence evinced in the trade than there had been for some time past. A few contracts on foreign account were now placed, and considerable purchases from the United States were looked forward to. A fair amount of rails were cleared for American account, as well as for the Baltic and British North America. In October the improvement was still maintained, and the enquiries bore a more business-like character. On continental account a few contracts were placed. In home transactions, however, there was not much progress; but as the meeting of ironmasters had decided on maintaining the old list prices, it was anticipated that home buyers would enter the market more freely with orders. The works were now fairly employed, and it was expected that operations would be satisfactory during the winter, as a considerable number of orders were expected to come in for supplies for North America, Canada, and Northern Europe. Independence of the specifications which would be received on home account and from the other foreign markets. Operations at the various works were now carried on with tolerable regularity, and orders were now coming in more freely. There was a marked improvement in the placing of orders on American account, and the export of rails to New York since the commencement of the current month had been above the average; a considerable quantity had also been sent to Russia and South America; and the Dowling Company had an order in hand for 27,000 tons of rails for Egypt. Orders for spring delivery were gradually coming in, and the enquiries on continental account were more hopeful. A slight improvement was apparent in home transactions, though consumers continued to purchase as sparingly as possible. In November there was a little more regularity in the placing of orders for the United States, and business with the Continent was somewhat more active, but still it lacked the vitality anticipated on the conclusion of the war. Orders for spring delivery continued to come in gradually, and there was a prevailing opinion that a moderate business would be done with British North America, and the markets of the Baltic during the next two months. The home trade remained quiet, the actual transactions entered into being on a most limited scale. The mills and furnaces were now kept fairly in operation, but orders on home and foreign account did not come in so well as expected. In the home trade especially orders were still kept back. From America the orders came in more freely, buyers being anxious to secure deliveries before the passing of the New Tariff Bill, which would be almost a total prohibition to the importation of British iron into the United States. Towards the middle of the month the home trade still continued quiet, in consequence of the

inability of the railway companies and large buyers to enter the market to any extent. Trade with British North America was promised to be moderately active, and it was expected that Russia would be a fair customer during the ensuing spring. Trade with India was quiet; towards the close of the month, however, it was found that the trade was not materially affected by the easiness of the money market, and the lowness of the Bank rate of discount, and buyers on home account continued to purchase sparingly for December. No change for the better was now expected before January quarter, by which time, it was hoped, greater confidence would pervade all branches of industry. The various mills and furnaces, however, were still kept fairly employed, and the workmen were earning tolerably good wages, considering the depressed state of trade generally. The exports were of an average character. Specifications for spring delivery were coming in, and there was a more active enquiry for the Continent, and with the majority of the other foreign markets business was of an average character. A few of the leading works continued fairly employed, and, considering the present depressed state of the trade, the yields of the furnaces were tolerably good; but many other establishments found great difficulty in maintaining operations. It was expected under the present state of things that many of the makers would be compelled to stop operations for a time, unless a general reduction in wages was effected, and it was fully anticipated that ere long notice would be given to the men to this effect. Most of the large establishments were engaged on foreign contracts, and a considerable quantity of railway iron was shipped to America. On home account the few orders were for immediate delivery, showing that the demand for stocks on hand was not very great. The mills and furnaces were fairly employed, considering the depressed state of trade, but they were chiefly engaged on common descriptions of iron. There was a falling off in the demand for bars and rails at some of the works, while for plates there was a change for the better. The American demand continued good; the general state of the trade is, however, so bad, and future prospects so uncertain, that there is little doubt that notice of a reduction in wages will take place at the end of the month.

Sweden. Iron, at the commencement of the year, a little more activity prevailed than had previously been the case, and some extensive transactions took place; but towards the end of the month the demand slackened—prices, however, remained without alteration, at 111. to 111.5s. per ton. During the following month, also, a very fair business was done. In March an improvement took place in the demand, and prices rose to 111.10s., 12s.; but in April the demand somewhat subsided, and prices were not so firm by 10s. per ton. Towards the end of May, the demand again became better, and prices were firmer, but became again easier about the middle of June, when very little was doing. In July, no improvement occurring, the market became easier, and prices fell to 101.10s., 11s. per ton, at which, however, not much was done; about the end of the month, however, there was again a better appearance in the market. Several parcels had lately arrived, but holders seemed disposed to ask higher prices, and were not by any means anxious sellers, and the quotations became again 111.10s. to 12s. per ton. In August, however, the demand being slack, holders were compelled to give way in prices, and quotations became 101.15s. to 111. per ton. In September there was rather an improved feeling, but prices did not alter. In October a moderate demand alone existed, and prices remained without change. In November there was little or no animation, and prices became 101.7s. 6d. to 111. per ton, at which, however, very little business was done, the market remaining very dull. In December there was rather a better enquiry.

In Scotch Pig-iron, at the beginning of the year the market stood at 65s. 9d. cash, and 66s. one month, but soon declined to 65s. 15d. cash; it soon, however, improved again, and the price rose to 65s. 9d. cash; a general revival of animation then occurred in the market, and considerable transactions took place at improved prices, rising gradually to 65s. 3d. cash, but afterwards declining to 65s. 3d. cash. This activity, however, did not continue, and prices again gradually returned to 65s. 9d. cash. In February, at the commencement of the month prices continued to decline, and fell to 65s. 6d. cash, but afterwards again improved, and rose to 66s. 9d. cash; this improvement continued for a time, and a very fair business was done, prices going up to 68s. 6d. cash. A steady advance now occurred, and a good amount of speculative business was done, prices gradually going up, and eventually reaching 71s. cash. Towards the close of the month the market became much excited, and the previous advance continued without interruption, prices going up until they at last reached 76s. cash. In March considerable fluctuations occurred, prices rising to 79s. cash, and then falling to 73s. cash, and afterwards improving to 75s. cash, at which all prices considerable business was done. The market still evinced considerable excitement, and a large amount of business was transacted at various prices, ranging from 75s. cash up to 78s. 6d. cash; at this time several prices the market continued fluctuating from day to day, but at length declined to 77. 6d. cash, and afterwards to 76. 6d. cash, and towards the close of the month, although a very fair amount of business was done, falling to 75s. 9d. cash. In April the market was less active, and prices dropped to 75s. 3d. cash, but soon again recovered itself, and prices again advanced, reaching eventually 78s. 3d. cash. Considerable activity again manifested itself on the market, and prices continued to advance to 78s. 6d. cash, but afterwards fell to 78s. cash. The market now became very strong, and rose to 80s. cash, but again resumed its former price of 78. 6d. cash. At the commencement of May the price reached as high as 81s. 9d. cash, but then commenced gradually falling until it reached 65s. cash. The great financial panic now occurring, as a matter of course, the market was most sensibly affected, and suffered a complete collapse, and prices dropped to 56s. 3d. cash, and such was the state of things in Glasgow when the great failure of Overend, Gurney, and Co. was announced, that the trade determined to suspend business for a few days, until there should be a slight recovery in the money market, which existed. When business was again resumed considerable transactions occurred at 55s. cash, 55s. 6d., and 56s. cash, but soon the market became weaker, and business could only be done at 53s. 4½d. cash. This downward course continued, and the best price obtainable was 51s. cash. In June the market rather improved, and prices rose to 53s. 3d. cash, but soon again declined to 52s. cash. The market, however, became again very flat and dull, and a drop occurred to 50s. 6d. cash, and then to 50s. cash, the market being very quiet, but rather better prices were realised, and the price became 52s. cash. This state of things continued until the close of the month, when an improved feeling arose, and considerable business was done at advanced prices, upon the strength of a number of furnaces being blown out, and prices rose to 58s. cash. In July considerable fluctuations occurred in the market, but lower prices ruled, and business was done at 55s. cash. The market now continued to give way, and prices fell to 52s. 9d. cash, and then to 52s. cash, the amount of business done being only trifling. In August the market continued very quiet, prices being 52s. 3d. cash, then falling to 51s. 9d. cash, and rising to 52s. cash, a perfectly inanimate feeling characterising the market. This state of things continued, and prices further dropped to 51s. 6d. cash, but on the reduction of the Bank rate of discount a slight improvement occurred, and prices went up to 53s. 3d. cash, and afterwards to 53s. 6d. cash, at which a moderate business was done, a rather improved feeling animating the market. In September, in consequence of the easier condition of the Money Market, and the prospect of a long continuance of the reduced make, a considerable improvement took place, and the speculative demand was much stimulated, prices continued to improve, and the price reached 55s. 6d. cash. Soon after, however, the market became quieter, and prices fell to 54s. 6d. cash. In October the fluctuations were very trifling, the market continued quiet, and prices still remained at 54s. 6d. cash. Comparatively little business was now done, and prices declined to 54s. 15d. cash. During the whole of this month the market remained very inactive, and at its close the price stood at 54s. 3d. cash. In November the market still continued in the most inanimate condition, very few transactions occurring, and prices fell to 53s. cash. A trifling improvement now occurred, and the price rose to 53s. 9d. cash, but again fell to 53s. 6d. cash. Throughout this month there was a great want of life in the market; business remained very flat, and the price fell to 53s. 3d. cash. In December a trifling improvement, however, occurred, and the price went up to 53s. 7½d. cash. More activity now prevailed in the market, and a fair amount of business was done, prices rising to 54s. cash. This improved condition of the market continued until the close of the month, when business was done at 54s. 6d. cash, and the market afterwards improved to 54s. 9d. cash.

LEAD.—At the beginning of the year the market was firm, and prices stood at 21½s. to 21½s. 10s. for common English pig, 21½s. 10s. for L.B. and 22½s. 10s. to 22½s. 15s. for W.B. Towards the close of the month, however, the market became quiet, and prices of common English pig were a little easier. In February the demand became very trifling, and operations small, and prices gave way to 20½s. 15s. to 21½s. for common English pig, 21½s. 5s. for L.B. and 22½s. 10s. for W.B. The market continued dull, and without important transactions. In March the market continued to present a similar appearance, and few transactions of importance occurred. The market still continued inactive, prices gave way to 20½s. 5s. for common English pig, 21½s. 5s. for L.B. and 22½s. 10s. for W.B. which latter, more from scarcity than from any other cause, was a better price. Spanish pig was quoted at 20½s. Towards the middle of the month, however, common English pig obtained a better price, and was quoted at 21½s.; Spanish also was sold at 20½s. 6d. to 20½s. 5s. In April several good orders for pig were given out for China, and there were some enquiries on Russian account; prices also showed an improvement of about 5s. per ton. The demand continued to improve, and prices became very firm, quotations being 21½s. for common English pig, 21½s. 6d. for L.B. and 22½s. 15s. for W.B. Spanish pig was quoted at 20½s. 5s. to 20½s. 10s.; a very good business continued to be done throughout the month. In May, though the demand was not quite so active, yet remained steady, and prices were without any change; but about the middle of the month prices became a little easier. In June the general slackness in business began to have effect, and the demand fell off, and the consequence was that prices declined to 20½s. 15s. for common English pig, 21½s. to 21½s. 5s. for L.B. and 22½s. 10s. for W.B. This slackness continuing, common English pig was bought at 20½s. to 20½s. 5s., and L.B. at 20½s. 15s. In July the market still continued dull, and the recent decline in prices did not lead to an increase of business. There was still an inclination to meet buyers in price, but the demand continued very limited; this state of things remained throughout the month. In August the quotations became 19½s. 10s. for common English pig, 20½s. for L.B. and 22½s. 10s. for W.B. Soon, however, a rather better enquiry sprang up, and some rather large sales of pig took place, chiefly for America and China, and quotations improved to the extent of 5s. per ton. The demand from America still continued good, and generally a much better business was now done, and towards the close of the month prices were 20½s. to 20½s. 5s. for common English pig, 20½s. 7s. 6d. for L.B. and 22½s. 10s. for W.B. In September a very fair business was done at last-named prices, and America and China continued good purchasers, and prices became a little firmer. Towards the latter part of the month, however, the market became more quiet. In October the demand again became somewhat brisker, and prices were firm. As the month, however, advanced, the market became again very quiet, and partook of the general dullness in business; this state of things continued throughout the month, and the amount of transactions was very moderate. In November, though the market continued firm at the quotations, operations were by no means numerous, and the want of vitality in trade generally was fully participated in. In December there was a rather better feeling manifested, and a fair amount of business was done, the demand from America continuing good.

TIN.—With the commencement of the year English was steady at the official rates, but the market for foreign was very flat, and Straits having declined to 95½ cash, was afterwards sold at 92½ cash. In Holland the stock of Banca at the end of December was 96,859 slabs against 66,907 slabs same time last year, and the arrivals for the next sale were 93,770 slabs against 79,404 slabs same time last year. Foreign continued to decline, and Straits fell to 80½ cash, and Banca to 92½; Straits, however, afterwards revived to 91½ cash, and Banca to 94½.

The improvement in Straits, however, did not continue, and business was done at 91½ cash. In February a fall in English was announced by the smelters of 5½ per ton, making prices 97½ for blocks, 98½ for bars, and 100½ for refined. The market for foreign also became weaker, and Straits was sold at 90½ cash. In Holland the stock of Banca on January 31 was 84,900 slabs against 62,677 slabs same time last year, and the arrivals for the next sale were 125,933 slabs against 109,779 slabs same time last year. On February 6 another decline of 2½ per ton was announced in English, by the smelters, and prices became 95½ for blocks, 96½ for bars, and 98½ for refined. In foreign the market was considerably depressed, and Straits fell from 85½ cash to 85½ cash; but it was considered that this state of things was not legitimate, but was caused by interested parties. Advances were received from Holland that the next sale of Banca would take place on March 22, when 111,800 slabs would be brought forward. Before long the market for Straits became again active, and business was done at 87½ cash, and holders became indisposed to part with their parcels at present prices, and seemed inclined to hold for better terms. In English, however, little business was doing. Towards the close of the month, although a considerable amount of business was done, yet the market for Straits became weaker, and sales took place at 86½ cash; Banca was sold at 88½. In March, Straits continued to fall gradually until it reached 84½ cash. In Holland the stock of Banca on Feb. 28 was 76,560 slabs against 57,690 slabs same time last year, and arrived for next sale 144,948 slabs against 132,246 slabs same time last year. On March 5 a re-advance of 2½ per ton was announced by the smelters of English, making prices 97½ for blocks, 98½ for bars, and 100½ for refined. In foreign the market was made at a still greater reduction, no real alteration was made in the market. Straits rather improved, and business was done at 85½ cash. Holders seemed disposed to hold, looking for better prices in the event of the Dutch sale of Banca going off well. On March 22 the public sale of Banca took place at Rotterdam, when 112,000 slabs, the whole quantity offered, were sold at prices varying from 45½ to 62½ lbs. the average being 49½ lbs. The orders were so extensive that the buyers obtained 10 per cent. less than the market price. After these advances there were received 4000 slabs were sold for delivery here at 87½ cash. The market for Straits became rather excited, consequent upon the repeated reductions in the price of Banca in Holland previous to the sale, and business was done at 83½ cash for large parcels, and 85½ for smaller; afterwards a rather better price was obtained, and business was done at 85½ cash to 86½ cash. In April the market for Straits again declined, and sales took place at 84½ cash. The stock in warehouse on April 1 was 102,300 tons against 3370 tons same time last year, and the quantity offered for sale was 102,300 tons same time last year. In Holland the stock of Banca on March 31 was 171,469 slabs against 48,560 slabs same time last year, and the arrivals for next sale were 44,744 slabs against 150,066 slabs same time last year. Straits continued to decline, and transactions took place at 82½ cash; Banca was sold at 84½. The downward course of the market for foreign continued, and transactions in Straits took place at 80½, and Banca at 81½. In Holland the demand for Banca was very active, the dispute between the smelters and Prussia causing buyers to evince great caution. This state of things continued, and sales of Straits took place at 78½, and of Banca at 80½ cash. English also was obtainable under the official quotations. In May the market continued much the same, and without improvement. The stock in warehouse in London on May 1 was 3350 tons against 3327 tons same time last year, and the quantity of Straits afloat for Europe was 974 tons against 1501 tons same time last year. In Holland the stock of Banca was 147,268 slabs against 42,390 slabs same time last year, and the arrivals for next sale were 60,840 slabs against 165,201 slabs same time last year. On May 8 the smelters of English announced a reduction of 6½ per ton, making prices 85½ for blocks, 86½ for bars, and 88½ for refined, but sales having been previously made as low, the reduction caused little or no change in the aspect of the general market, which continued dull, with declining prices. Straits continued its downward course, and business was done at 76½ cash, Banca being quoted at 79½ cash. The market now remained very inactive, and few transactions occurred. In June the market became as before, business still being done in Straits at 76½ cash. In Holland the stock of Banca on May 31 was 124,529 slabs against 38,595 slabs same time last year, and the arrivals for the next sale were 88,857 slabs against 175,563 slabs same time last year. The stock of tin in warehouse in London was 3201 tons against 2734 tons same time last year, and the quantity of Straits afloat for Europe was 1149 tons against 1397 tons same time last year. No improvement took place in the market, want of confidence generally, and the derangement in monetary affairs, preventing any operations from being entered into, and hardly any business was done. Towards the close of the month, however, holders of Straits were asked rather better prices, and would not part with their parcels under 76½ to 77½, according to quality, but operations were very limited. In July the market for English gave way, in consequence of the continued quietness, and sales were made at 4½ to 5½ under official quotations. Straits also again became weaker, and was sold at 75½ cash. The stock of tin in warehouse in London on June 30 was 3446 tons against 3439 tons same time last year, and the quantity of Straits afloat for Europe was 1169 tons against 1169 tons same time last year. In Holland the stock of Banca on June 30 was 119,900 slabs against 32,600 slabs, and 169,900 slabs remaining over from same time last year. Arrivals for the next sale 107,650 slabs against 15,719 slabs same time last year. The market for foreign still continued very inactive, and transactions in Straits were very limited, and business was done at 74½ cash; but afterwards rather improved, and the price advanced again to 75½ cash, Banca being sold at 80½. In August the market for Straits became rather firmer, and business was done at 76½ cash. In Holland the stock of Banca on July 31 was 109,375 slabs against 30,790 slabs same time last year, and the arrivals towards the next sale were 118,159 slabs against 26,460 slabs same time last year. The market for foreign now became very lifeless, and no transactions of moment occurred; some small business in Straits was done at 76½ cash, but buyers were not eager. English was still obtainable under smelters' prices. Towards the middle of the month a slight improvement occurred, and some small parcels of tin square Straits were sold at 77½. After this reduction in the Bank rate a rather better feeling arose, and holders were not inclined to part with their parcels, looking for an improvement in the market, and better prices; and soon a marked improvement did occur, and Straits advanced to 82½ cash, at which the market remained firm, and Banca was quoted at 83½. English also became much firmer. On Aug. 29 the smelters of English announced an advance of 3½ per ton, making prices 88½ for blocks, 89½ for bars, and 91½ for refined. The market for Straits continued to improve, and business to some extent was done at 84½ cash. The Dutch Trading Company announced that their general sale of Banca would take place on Sept. 28, when 110,000 slabs would be brought forward. In September the improved position of the market was not maintained, and the price of Straits began again to decline, and gradually fell to 81½ cash. Banca also declined to 82½ cash. In Holland the stock of Banca on Aug. 31 was 97,850 slabs against 141,619 slabs same time last year, and arrived towards next sale 128,507 slabs against 42,668 slabs same time last year. The stock of tin in London on August 31 was 2210 tons against 3110 tons same time last year, and the quantity of Straits afloat for Europe was 1113 tons against 1113 tons same time last year. Straits again now declined, and business was done at 80½ cash, but afterwards recovered to 81½ cash. Banca remained unsettled, in anticipation of the approaching sale in Holland. On September 28 the sale of Banca in Holland took place, when the whole quantity was sold at 16½s., equal to 81½ cash, here. Straits was again sold at 80½ cash. On October 2 the smelters of English announced a decline of 3½ per ton, making prices 85½ for blocks, 86½ for bars, and 88½ for refined, but as sales in second hands had been previously made at the reduction, no increase of business took place, and the market remained very quiet, and at 80½ cash, and Banca, ex sale, at 80½ to 80½ cash. In Holland the stock of Banca on September 28 was 89,900 slabs against 132,169 slabs same time last year, and the arrivals towards next sale 31,551 slabs against 48,788 slabs same time last year. The stock of tin in London on Oct. 1 was 3112 tons against 3112 tons same time last year, and the quantity of Straits afloat for Europe was 899 tons against 1746 tons same time last year. The market for foreign still continued to improve, and transactions occurred at 78½ cash. However, there was little offering of Banca, and the market was not very active. Banca was offered at 80½ cash, but without finding buyers. In English little business was doing. Transactions in foreign still continued very moderate, and prices remained as formerly. In November there was no alteration in the prices of foreign, and business to a small extent only was done. In Holland the stock of Banca on October 30 was 166,790 slabs against 121,759 slabs same time last year, and the arrivals towards next sale were 50,926 slabs against 73,014 slabs same time last year. The stock of tin in London on November 1 was 3185 tons against 2855 tons same time last year, and the quantity of Straits afloat for Europe was 412 tons against 1409 tons same time last year. The market for foreign now became considerable improvement, advancing gradually until Straits reached 81½ cash, and Banca 82½. English, also, was more enquired for, and looked much better. This improvement, unfortunately, however did not last long, and prices again dropped until Straits was sold at 79½ cash for round bottom, and 80½ for fine square. Banca also was sold at 81½ cash, and English became again quiet. Again, however, towards the close of the month the market improved, and Straits advanced to 80½ cash, 81½ cash, and there was some enquiry for arrival. In December the market for foreign was steady at last prices, Banca being sold at 82½. In Holland the stock of Banca on Nov. 30 was 140,109 slabs against 109,259 slabs same time last year, and the arrivals towards next sale were 60,624 slabs against 90,300 slabs same time last year. The stock of tin in London on December 1 was 3407 tons against 2942 tons same time last year, and the quantity of Straits afloat for Europe was 711 tons against 1515 tons same time last year. An improvement in the market now occurred, and the price of Straits went up to 82½ cash, and 83½ prompt; January 1; and for arrival, a parcel sold at hand was sold at 83½. Business to a fair extent was done in Banca at 83½, but holders subsequently required 85½. The market now assumed a decidedly brighter appearance. English became firmer, and could not easily be obtained at more than 1½ under official rates. Straits was sold at 83½, and 84½ cash, and 84½ two months prompt, and the market altogether had an upward tendency.

SPELTER.—At the commencement of the year there was not much activity in the market, and transactions occurred at 22½ 10s. on the spot, and 21½ 17s. 6d. to 21½ 15s. for spring delivery. The stock in London, on December 31, was 6419 tons. The market soon improved, and business was done at 23½ on the spot, holders asking 23½ 10s. Towards the close of the month, however, the market became less active, but the price on the spot was unchanged. In February business continued dull, and operations were quite insignificant. The price on the spot still remained at 23½, and for spring shipment 23½ 5s. The stock in London, on Jan. 31, was 6241 tons. About the middle of the month an improvement occurred, and the price on the spot rose to 23½ 10s., and for spring delivery to 23½ 17s. 6d. This improvement continued, and parcels on the spot were sold at 24½ 5s. and 24½ 10s., and the market still looking upward. In March the market was hardly so firm, and parcels on the spot fetched only 24½ 5s. The stock in London on February 28 was 5886 tons. This decline continued, business becoming less active, and spot parcels were sold at 24½. The market now became very inactive, but after a time again improved, and the price of parcels on the spot again went up to 24½ 5s., 24½ 10s., and sales for spring delivery took place at 24½ 10s. to 24½ 12s. 6d. In April the aspect of political affairs in Germany had the effect of giving increased business to the market, and parcels on the spot now sold at 24½ 15s. The stock in London on March 31 was 5516 tons. As less warlike intelligence, however, arrived from Germany, prices became less firm, and business was done on the spot at 24½ 7s. 6d. to 24½ 10s.; and as the probability of peace being maintained between Austria and Prussia became greater, the price for parcels on the spot went down to 23½ 10s., the market, however, remaining inactive. In May the price continued to drop, and business was done on the spot at 22½ 17s. 6d., and afterwards at 22½ 5s., and for delivery during the month at

22½ 15s. The stock in London, on April 30, was 5452 tons. This decline continued, and transactions occurred at 21½ on the spot, the market being very weak. The fear of war breaking out on the Continent now caused the market to remain dull, and little business was done—the price on the spot fell to 20½ 12s. 6d. In June the market remained without animation, and parcels on the spot were sold at 20½. The stock in London, on May 31, was 5787 tons. The amount of business transacted now became very limited, and parcels on the spot were still sold at 20½. The commencement of hostilities on the Continent caused considerable activity to arise in the market, and prices rapidly advanced, and even reached 25½ on the spot. A large business was now done, and higher prices were looked for. This improvement, however, did not last very long—the demand did not continue, but still 24½ was asked for parcels on the spot. In July the course of events in Germany, and the rapid and sudden success of the Prussian arms, caused prices to decline, and parcels on the spot were now sold at 22½ 10s. The stock in London, on June 30, was 5774 tons. This decline continued until parcels on the spot were sold at 21½, but then an improved feeling sprang up in the market, and sales took place on the spot at 21½ 10s. On July 18, 550 tons were put up to public auction, and were all bought in, but after the auction some business was done, and parcels on the spot were sold at 21½. The market now became very unsettled. In August, the prospect of peace on the Continent caused the market to drop in price, and business was done on the spot at 20½, and afterwards at 19½ 15s., and then at 19½ 10s. The stock in London, on July 31, was 5881 tons. This state of things continued until the reduction in the price of wheat, when the price on the spot went down to 19½ 6d.; afterwards, however, the market became firmer, and though transactions were not large, yet the price on the spot went up to 19½ 10s., and then to 19½ 15s. Business now became much more active, and several hundred tons changed hands at 19½ 15s. to 20½ for parcels on the spot. In September the market continued to improve, and business was done at 20½ 5s. on the spot. The stock in London, on August 31, was 6028 tons. The market remained tolerably steady during the month, and the amount of business was done, and in consequence of the reduction in the stock, and the anticipation of the closing of the navigation, the tendency of the market was to higher prices. In November considerable transactions again took place, and the market continued to improve. Business on the spot was done at 21½ 5s., and for delivery at the end of January at 21½ 12s. 6d. The stock in London on Oct. 31 was 4896 tons, being a decrease of 801 tons during the month, and in consequence holders became firmer, and would not part with their parcels on the spot under 20½ 10s. The amount of business which was transacted was not large, but the market continued firm at the above price. As the month advanced, however, considerable animation was manifested, and prices gradually advanced for parcels on the spot from 20½ 12s. 6d. to 21½, at which various prices a large amount of business was done, and in consequence of the reduction in the stock, and the anticipation of the closing of the navigation, the tendency of the market was to higher prices. In November considerable transactions again took place, and the market continued to improve. Business on the spot was done at 21½ 5s., and for delivery at the end of January at 21½ 12s. 6d. 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CARNARVONSHIRE CONSOLIDATED LEAD MINING COMPANY.

TO THE EDITOR OF THE "MINING JOURNAL."

SIR,—In the Mining Journal of Saturday last you inserted an advertisement, headed "CARNARVONSHIRE CONSOLIDATED LEAD MINES COMPANY (LIMITED)—CAUTION," signed ROGER FENTON, setting forth that immediate proceedings in Chancery were about to be taken for obtaining a cancellation or relinquishment of shares which are supposed to have been registered in the names of Mr. Baker Lelean or his nominees, or of parties claiming through them, and for other equitable relief in respect of transactions and dealings of the said Mr. Lelean in connection with the formation of this company, and cautioning persons against purchasing any such shares. This was bad enough; but it was rendered worse by the appearance, in the same paper, of an advertisement of mine, recommending the purchase of these shares. It will be readily conceived that, had I known that such an advertisement as that of Mr. Roger Fenton's was about to appear, I should have instructed you to withhold mine, lest it might suggest itself to any person, that I was attempting to impose upon the public by the sale of spurious shares. You must now permit me to set myself right by a brief statement of facts.

Early in the month of August last I was informed that the mines now known as the Carnarvonshire Consolidated Lead Mines might, if at once looked after, be purchased as a very great bargain. After conferring with two or three friends, I had the mines and machinery thoroughly inspected by Captains John Kitto and John Nancarrow, and also made a careful survey of them myself. Being thoroughly satisfied there were very extensive and valuable deposits of metal in all the mines, throughout the extent of a mile and a half, and eight lodes having been already opened, and ores returned; finding Capt. Kitto and Nancarrow united in judgment as to the certainty of unwatering the mines, by driving an adit from the river-side, at a cost of only £4000 or £5000; and being satisfied that the water-wheels and other machinery and plant were worth much more than the sum at which I could purchase them and the mines, I resolved to purchase; and in the same month of August, I agreed with the owner upon the terms—that is, the payment of £8000, one-half to be paid in money, the other half in shares in any company that might be formed, and to which I might sell the mines. This bargain was completed on or about Aug. 20.

On Oct. 8 following, a joint-stock company was formed and incorporated for purchasing the lease and plant of these mines, and for working the same; and it was stated in the Articles of Association, then filed in the Registrar's office, that the capital was to consist of £30,000, divided into 7500 shares of £4 each, and that out of these shares, "2500, fully paid-up, with £4000" in good and lawful money, was to be paid for the leases of the mines and the machinery, pit, &c.

On Oct. 12 a meeting of what I called the promoters—that is, the persons who had been incorporated, and alone at that time constituted the company—was held, at which one of the resolutions passed was to purchase from me the Carnarvonshire Mines, upon the terms stated in the Articles of Association, and authorising the drawing and executing of the necessary agreement between the company and myself. That agreement was duly drawn and executed. Another of the resolutions passed at this meeting was appointing five persons, who had promised to take shares in the company, the future directors, they having had sent to each of them a copy of the prospectus, in which the sum of money and shares to be paid for the mines and machinery was fully set forth.

The prospectus received the assent of each of these persons, and each authorised the publication of his name as a director upon it. It may be well to add, that when I proposed to them to join the company I urged them to go and see the mines and machinery, so that they might be able to form their own judgment upon them. Two of them visited the mines; one of the two, this same Mr. Roger Fenton, visited them, as he afterwards informed me, a second time, accompanied by two of his relations, and was so satisfied with what he saw, and heard there, that he said he should take 100 shares, in addition to the 100 he had already promised to take, and that each of his relations would subscribe for some, which they subsequently did. Another of these persons did not, I believe, visit the mines, but had an interview with Capt. Kitto, who told him that the mines, &c., were well worth the £14,000 to be paid; and he was so satisfied that he subsequently wrote to me, stating that he hoped to be able to increase the number of his shares, and that he believed two or three of his friends would also take some. The fourth person I invited to become a director, being the seller of the mines, knew all about them, and the fifth had much confidence in my statements that he did not visit them. It cannot, therefore, be pretended that I either imposed, or wished to impose, upon these persons by any false or exaggerated representations. I gave them every opportunity to judge for themselves, either as shareholders or as directors. All this, as I have stated, took place in the months of September and October; and as applications had been made for more than the number of shares to be issued to the public, upon all of which the deposit had been paid into the bankers, the secretary called a meeting of the directors for Nov. 2, upon which I directed, and allotted the 2500 shares upon which the deposit had been paid, and 2500 credited with £4 each to me and my nominees, in part payment of the purchase of the mines, in conformity with the agreement which had been executed between myself and the company in the preceding month. At this meeting the directors also signed two cheques, made payable to me, for £500 each, in part payment of the £4000 due to me under the same agreement, which cheques were countersigned by the secretary, were handed over to me, and were duly paid by the company's bank.

On Nov. 12 another meeting of the directors was duly held, at which the minutes of the preceding meeting, including these facts, were read by the secretary in the usual way, were confirmed, and were signed by the presiding Chairman. At this meeting the directors signed another cheque, for £1000, made payable to me, "in further part payment of £4000, on account of the mines and machinery," and one of the two directors who signed this cheque was Mr. Roger Fenton.

On Dec. 6 another meeting of the directors was held, at which the secretary, in the usual way, read the minutes of the preceding meeting, including, of course, the payment of the cheque for £1000 to me, which minutes were confirmed, and were signed by the Chairman, and then, voluntarily, by Mr. Roger Fenton. The secretary then stated that he had been requested by me to ask for a cheque in my favour for the remaining £2000, the balance due to me in purchase of the mines, &c., whereupon one of the directors, who had just entered the room, objected to any further payment being made to me, and proposed that the resolution for confirming the minutes, which, as I have said, had been passed and acted upon by the signing of them, by both the Chairman and Mr. Fenton, should be rescinded, alleging as the reason for this extraordinary course of proceeding, that he should object to any further payment, until a full enquiry had been made into the propriety of the allotment of the 2500 shares to me and my nominees, which he represented as shares that had been given to me as the promoter of the company, which he assumed I was. It was in vain that the secretary and the Chairman urged attention to the fact that no shares had been given to anyone for promoting the company, and that these 2500 shares had been allotted to me and my nominees, as was expressly stated in the minutes of the board meeting at which they were allotted, in part payment of the £14,000, for which I had sold the mines, under the contract of October, and the board ultimately refused to sign the cheque, and adjourned to January 17, 1867.

On Dec. 18, however, Mr. Roger Fenton called a meeting of the board of directors for the 20th, at which he presided. I presented myself at this meeting, and expressed my surprise and regret at the refusal of the preceding meeting to sign a cheque in my favour for the £2000 still owing to me on account of the mines, under the contract of October, according to the terms of which contract I was to have been paid out of the first moneys received by the company, and I demanded payment forthwith. I remonstrated against the injustice and unreasonableness of the opposition to my just claim, which had been so far acted upon that £12,000 in money and shares out of the £14,000 owing to me had been paid, and I protested, in the name of the shareholders, against the injury which this course of conduct, if persisted in, would do the company, the shares in which were then selling at from 1½ to 1½ prem. Mr. Darwent, however, the originator of this opposition, was deaf to all remonstrance, and still persisted in representing the 2500 shares as shares given for promotion, and insisted upon my consenting to hand over the shares to the directors. My answer was that the shares had been allotted to me instead of money, in part payment for the mines, and that, therefore, I could not surrender them; and I again demanded payment of the outstanding £2000.

These extraordinary proceedings were altogether unanticipated by me, and I was most anxious to bring them to a close, not only on my own account, but on account of the shareholders. I reminded the board that they could not rest upon any pretence that the £14,000 at which I had sold the mines to the company was a sum larger than they were worth. Beyond this, I stated that I should be glad to re-purchase the property at the price at which I had sold it, and that I would do so, if the directors would agree to return the full amount of the money they had paid upon their shares, on condition that they should resign, and leave the shareholders to elect others in their stead. This offer seemed to be received with favour, but was soon objected to. At the end of an hour's doing and undoing, however, it was agreed by all parties that a letter should be addressed by me to each of the shareholders, and another by the directors, in conformity with the two following propositions, which were written out by the Chairman, Mr. Fenton, a copy of them being delivered by him to the secretary on my behalf, and a copy kept by himself on behalf of the directors:—

"Mr. Baker Lelean has agreed to give a letter to the shareholders, the effect of which some misunderstanding having arisen between him and the directors, so to the completion of the contract for the purchase of the mines, he will take from them all shares at par."—"The directors, on their part, will issue a circular stating that they find themselves unable to carry out the agreement for the purchase of the mines. In the way at present contemplated, and that Mr. Lelean having offered to take back at par all the shares issued to the public, they intend to avail themselves of this offer, and retire from the direction."

This agreement being entered into, it was arranged that we should meet on the following day (Friday), at the London Tavern, the directors to be attended by a solicitor, and myself by another, and that the letters to be addressed to the shareholders by myself and the directors should be drawn up by the solicitors, based upon the above-quoted memorandum. The meeting took place, and I and my solicitor were there. Mr. Fenton was moved into the chair, and Mr. Darwent rose, and said they were to have met to carry into effect the agreement that had been made between Mr. Lelean and the directors on the previous day, but upon reconsidering the matter they had thought it would not be a satisfactory arrangement, and they had something else to propose in its stead. Hereupon my solicitor asked if he was to understand that the agreement that had been made between Mr. Lelean and the directors on the previous day was set aside by them? The answer was "Yes." Mr. Darwent adding that they had some other proposition to make, which they thought would answer the purpose better, and asked the secretary if he had brought with him all the books and documents belonging to the company. The reply was that he had only brought the rough minute book, which he hoped would be enough for the purpose of the meeting; whereupon Mr. Darwent stated that he was setting the board at defiance, and moved that "the secretary be ordered to proceed immediately to the office, and produce forthwith at this meeting all the books, papers, and documents belonging to the company," which having been seconded was adopted. Hereupon the secretary said he must now inform them that it was impossible for him to obey the orders of the board, inasmuch as he had found that Mr. Lelean had locked up the books, and retained possession of the key. I stated that I had done so, and proposed to hold possession of it until the directors gave me a cheque for £2000, being the balance of the £4,000, due to me. I added, however, that the books might be consulted and examined in the office, but that they should not be taken away until I was paid.

Mr. Darwent insisted that the secretary should fetch them, and the secretary left the room; and, as he afterwards stated, proceeded to the office, and finding that he could not get at the books, returned to the meeting and stated that fact.

Mr. Darwent repeated that the secretary was setting the board at defiance, and suggested that they should now make it a private meeting of directors, and that the secretary, as he himself was a solicitor, should withdraw for half an hour, and all three withdrew. On our return, the secretary was informed by the Chairman that during his absence the directors had passed a resolution, which he would read to him, and he read—"Resolved, that the secretary having refused to obey the order of the board to produce the books and other documents of the company at this meeting, no longer possesses the confidence of the board, and is relieved from his duties as secretary." The secretary said there was a grave error in the resolution the Chairman had read to him, inasmuch as he had not refused to produce the books; the simple fact being that he could not obtain them, and, therefore, could not produce them—adding, that neither did he accept that part of the resolution which deprived him of his office. No formal notice was taken of this, and we all three left. On the following (Saturday) morning, I, by the advice of my solicitor, who suggested I ought not to damage my position by anything that was open to dispute, wrote a letter to the solicitors whom the directors had employed, stating that, upon the advice of my solicitors, I had given the secretary permission to take the books, and that he could do so, if he pleased. Later in the day Mr. Fenton, accompanied by his solicitor, and a person who was represented to be the secretary the directors had appointed, came to my office, and received from the secretary the whole of the books and effects belonging to the company. On the same day (Saturday) the advertisement to which I have referred appeared in the Mining Journal.

This, then, is the case, stated as briefly as I could do it, and omitting many circumstances which I might have added as tending to justify and strengthen my position; but that I find it to be unnecessary. It will be seen that the original intention of my having sold the mines to the company at more than they are worth. The only things alleged are—

1.—That I was acting as the agent of the company in purchasing the mines. This is sufficiently refuted by the fact that my purchase was made before I had taken a single step to form a company; and also by the fact that the directors allotted to me and my nominees £10,000 worth of shares, and paid to me £2000 in money, in part payment of the £14,000 for the purchase of the mines, &c., as the minutes of the board of directors show.

2.—That the directors thought they were dealing with the person of whom I purchased the mines, and not with me. This is sufficiently refuted by the fact that the shares were allotted and the £2000 paid to me on account of the purchase, without reference to any other person.

3.—That I had never stated the price paid by me for the mines. That I had intended no concealment is proved by these facts, among others, that the person of whom I purchased became, at my request, one of the directors, and was present at every meeting of the board, he being known to be the person who had sold to me, and who, as far as I knew, never concealed, nor attempted to conceal, any part of the bargain between him and myself; and that my agreement with the company recited my previous agreement with the party of whom I had bought.

So much as to the contract. As to the justice of the CAUTION against dealing in these shares, I will only here observe, in addition to what I have said as to the allotment of these shares to me in part payment of my claim, that the very persons who are now seeking to injure and ruin me, as they threatened to do, know perfectly that I was dealing with the shares in the market from the time of their allotment. Mr. Darwent wrote me, that he hoped to purchase some himself, and to induce two or three of his friends to purchase some also. Mr. Fenton cannot, at all events, pretend ignorance of the fact, for his sister having applied for ten shares, and paid the deposit into the bank, after the time for receiving applications, I stated to him, that rather than she should be disappointed, or placed at a disadvantage, I would sell her ten of my shares at par, although they were then at a premium; whereupon he signed a cheque upon the company's bank for £10 in her favour, which cheque was handed over to me, and transferred ten of my shares to her, receiving the balance of £90.

In conclusion, I would advise the shareholders not to be frightened into the selling of their shares. Nothing the directors may do will reduce the value of the mines, which are among the most valuable in the kingdom. Let them wait awhile, and they will realise all that has been promised. The directors, it is true, are spending the funds of the company in useless litigation, but it is to be hoped that the shareholders will soon put a stop to that. A director has protested against these proceedings on the part of the majority, and another (the original vendor) has induced me to concur with them only upon their saying to him that it would be better for him to be with them, as they were the majority, and that they have formed a committee of three for carrying on their proceedings, excluding these two and the secretary from all knowledge of what they do, and how they do it, excepting so far as they please to make it known.

I am, your obediently, BAKER LELAN.

11, Royal Exchange, Dec. 27.

Mining Correspondence.

BRITISH MINES.

BEDOL-AUR.—H. R. Harvey, Dec. 27: We have not yet reached the bottom of the shaft, but expect to do so every day; the ground is rather hard for progress. Jones's pitch has fallen off in value very much since last week, but may improve again in a few days, as the lode seems to be very fluctuating. Nuttall's pitch is about 10 ft. from the bottom, and is yielding about 5 cwt. per fathom. We are getting some nice lumps of lead ore from the pitch north-east on the Brynva vein at the same level.

BOTTLE HILL.—J. Eddy, Dec. 27: South or Copper Lode: The lode in the 12, west of cross-cut, is now about 2 ft. wide, and for the present poor. The lode in the end going east in the same level is about 15 inches wide, and turning out good work for tin. There is no alteration in the ground in the 24, west of shaft, since last week's report. Our different stopes now working on the main lode are turning out moderate stamps work. We shall commence burning for our next sampling early in the coming week.

BYNANTLEIGH.—W. Wasley, Dec. 27: The men have finished timbering the footway shaft, &c. I have suspended all the drivings at the deep adit, and shall confine the operations to the sinking of Lewis's shaft until we get down for deeper levels. The shaft is now 6½ yards below the deep adit level, and good progress made in sinking, with nine men. The lift, &c., continues to work well.

BYN GWIG.—Stephen Harper, Dec. 26: The lode in the 102, east of engine-shaft, is about 3 ft. wide; thinking there was more lode standing to the south, we put the men to open in that direction, about 6 fms. behind the end we cut into a large body of clay and spar, intermixed with a little lead, but not to value; we then went a little further on, and cut in through the lode again, and met with similar stuff, but at present we are opening towards the south, as we think from the run or dip of the clay, &c., we ought to meet with the main run of lead; the lode in the bottom of said level is still very large, with fine deposits of lead, but not regular. The lode in the 90 east is a little improved since my last, now ½ ft. wide, with a branch of spar and lead 3 in. wide, the ground having been improved in appearance than formerly. In the same level, west of shaft, the lode, both in back and bottom, is much the same as when last reported, with 2½ tons per fm. No alteration to report in the 75 west. The lode in the 75 east, on the new lode, is still worth 1½ ton per fm.; in order to effectually work this lode, both for ventilation and extraction of the stuff, we are driving a cross-cut a few fathoms below the former workings, and are pleased to say that we have met with a nice rib of lead, which looks very promising for a further improvement. The pitches throughout the mine are the same as for some time past.

CAMPORRY TEAN.—N. Clymo, Dec. 27: The 135 is improved, and worth 4 tons of copper ore per fathom; the ore is of a much improved quality. We have a stope in this level worth 6 tons of copper ore per fm. The winze sinking below the 135 is poor. The 120 is 5 fms. from this winze, and is now in kilas; we expect an improvement when this end enters the elvan—in about 8 fathoms more driving. The 170 is worth 2 tons of copper ore per fm. We have sampled 121 tons of ore; it is of much better quality than what we have hitherto sold. The tribute pitches throughout the mine are improved.

CAPE CORNWALL.—R. P. Goldworthy, Dec. 26: The lode in the 100 end and the 100 west, are both improved, and are letting out water freely. The lode in the 100 west is large, but poor at present. The lode in the 90 end east is large, producing a little tin, but not to value; ground soft. The lode in the 90 end west is without change. The lode in the 70 end west is sprigged with yellow copper ore.

CARADON AND PHENIX CONSOLS.—W. Richards, Dec. 26: During the past two months the ground in the cross-cut towards No. 2 lode has proved to be very hard granite, but I am pleased to acquaint you that a change for the better has taken place in the past week, and I am of opinion a still further improvement will be made in the near future. The ground is now much more loose, and contains small branches of mundle and fluor-spar, which are favourable indications for copper ore being found in the lode.

CARADON CONSOLS.—S. Bennett, Dec. 24: The lode in the 90 west continues to look very promising, regular, and producing a little ore, but not sufficient to value; in the east end there is a fine looking gossan lode, containing spots of good ore; I think we shall soon get ore of value here as we leave the cross-course. In the 80 west the lode is 1½ ft. wide, spotted with ore throughout; this end is slightly improved within the last few feet; the ground, however, continues stiff. The west end of Jones's lode is not yet clear of part of the cross-course; between those parts the lode contains some good black ore, but very irregular. The gossan lode at the 80 seems to be improving, and the ground about it is also more favourable. There are some small cross-courses a fathom or two ahead, and until those are passed I think we shall not see much change here.

CARDIGANSHIRE LEAD.—E. Pearce, Dec. 27: Glen Rhoidol Mine: The shaftmen are making good progress in sinking the engine-shaft below the 30. Being down 11 fathoms, we expect they will finish their contract in a fortnight from the present time. When the sinking is completed we shall lose no more of our pit-work, and make preparations for driving under the bunch of ore seen in the level above. The lode in the 30 has produced some good work since our last report, but at present it is not looking quite as good, and from the character of the lode we may reasonably expect an early improvement. In the 20 fm. level cross-cut we have intersected the lode and have cut into it 4 feet; it is composed of blende and sulphur; we cannot state its value, as we are not yet through it. The stope below the 20 is getting poor, and the ore ground nearly all taken away that will pay for working. We shall stop this place in a day or two.—Faint Mawr Mine: We have not cut anything worthy of notice in the 20 fm. level cross-cut south, and the men are removed to the stope below the 10 fm. level, west of shaft, where the lode is worth 10 cwt. of lead ore per fathom. The stope below the same level, east of shaft, is worth 10 cwt. of ore per fathom. The dressing department is being pushed on fast as possible, and the carriers are taking down the ore to Abergystwith for our next sampling, which will be shortly.

CASTELL CARN DOCHAN (Gold).—J. Parry, Dec. 26: The lode in the drive from the smithy stope looks a little more favourable this week. There is no alteration to notice in the stope. To-day's produce of gold from amalgamators is 5½ oz. Quantity of stuff stamped up to date, 115 tons. We shall haul all the stuff raised to the 29th by Jan. 1, and shall then draw off the coffer-stuff and amalgamate it as fast as we can. I shall follow your instructions, and stop raising more stuff after next Saturday.

CENTRAL MINERA.—Thos. Hughes, Dec. 27: Victoria Engine-shaft: The only alteration worthy of notice in the 40 yard level west is more water issues from the forebrest, which is favourable.

GREENHILL AND WHEAL ABRAHAM.—W. Kitto, Dec. 26: We have cleared the 55, east of St. George's shaft, on the middle lode, about 12 fms., and a cross-cut has been driven 3½ fms. westward, cutting the old lode, which is not yet seen at this point. I purpose to clear out the level, so as to ascertain if the old

lode has formed a junction with the middle lode. We have taken down a horse ground that stood between the latter and the south or new lode, on which we have commenced to drive the 95 east; the lode is 3 ft. wide, with good stones of ore, and likely to improve. The 80 east is improving in appearance, and I hope to send a good report from this quarter in a few days. The lode in the 60 will be taken down against measuring day. I shall be able to send more particulars in my next report.

CUDDRA.—F. Puckey, A. Cundy, Dec. 24: We are still making good progress in sinking Walker's shaft, which is now 2½ fms. below the 130 (and not 9 fms., as stated in the Journal of Dec. 14). In the 130, west of Walker's shaft, we shall continue to drive during the week. Next week we purpose to begin to cut through the lode, which from its appearance in the new winze, just above, we fully anticipate to be very good for tin. The winze sinking below the 117 is going down very sparingly, on account of its great size, which is 11 ft. wide, with an excellent lode, worth 40t. per fm. for that width. We have just now commenced stoping the bottom of the 117, west of winze, where the lode is 9 ft. wide, and worth 30t. per fm., and likely to still improve. In the stope in the back of the 117, behind the end, the lode is 4 ft. wide, and worth 8t. per fm. In the other stopes in the back of the same level the lode is large and promising, but producing only a small quantity of tin.

CWM ERFIN.—Dec. 26: The lode in the stope in back of the 20 is two yards wide, worth 15 cwt. of ore per fm. The three stopes in back of the 10 will produce on an average 15 cwt. of ore per fm. The rise in back of the 38 will produce 2 tons of ore per fm. The lode in the deep adit level east has much improved, being 20 in. wide, worth 1 ton of ore per fm. The lode in the stope in back of the 45 has improved, now worth 2 tons of ore per fm. The lode in Taylor's drift is 3 ft. wide, worth ½ ton of ore per fm. The lode in the stope in back of William's level is 3 ft. wide, worth 1 ton of ore per fm.

DEVON AND CORNWALL UNITED.—T. Neill, Dec. 24: The lode in the 34, west of engine-shaft, is 6 ft. wide, worth 8 tons of ore per fm. The lode in the 46, east of whim-shaft, is producing good stones of ore.

EAGLEBROOK.—H. Tyack, Dec. 22: In the 30 east we are carrying a portion of the north part of the lode, about 4 ft. In the drive; the part of the lode in the present end is much of the same description as what it has been for the last 14 ft., containing clay-slate, sulphur, gossan, and carbonate of lime, with strong spots of lead and copper ore. In the 30, west of the cross-cut, our men are now engaged in driving a cross-cut north to prove a part of the lode standing in that direction, and about 9 ft. north of the present end of the level.

EAST CARADON.—J. Truscott, Dec. 26: Caunter Lode: The 100 east is worth 8t. per fm.; the 100 west, 5t.; and the 90 east, 10t. per fm.—South Lode: The 100 east is poor; the 70 west, 18t. per fm.; the 70 east, on south part, 10t.; and the 70 west, on south part, 6t. per fm.

EAST LAXEY.—W. H. Rowe, Dec. 24: I looked carefully at the 50 fm. level in putting the new main-rods, and noticed a gradual change in the lode, from the bluish kilas to a harder quartzose character. There are also small strings of lead in the "dunk." The end is a little more than 9 fathoms from the shaft.

EAST ROSEWARNE.—J. James, Dec. 27: In the 95, driving east of King's shaft, the lode is 8 inches wide, worth 3t. per fathom. In the 95, driving west of shaft, the lode is 1 foot wide, worth 7t. per fathom. The ground is favourable, and we expect improvement in these levels. In the 85, driving west of shaft, the lode is 15 inches wide, with spots of copper ore, but not to value. We calculate on an improvement as we approach the cross-course. There is no change to notice in the 43, east of Hallett's shaft, and the same remark applies to the 43 east, on the engine lode. The two stopes in back of the 85 east are worth 16t. per fathom and 6t. per fm. respectively. The stopes in back of the 85 west are worth 4t. per fathom, and the stope in back of the 75 east is worth 5t. per fath. m. We sampled on Monday last (computed) 156 tons of about our usual quality of ore.

EAST WHEAL GRENVILLE.—G. R. Odgers, W. Bennett, Dec. 26: We have no alteration to report in any of the underground workings in this mine, more than that the 95 west is letting out more water. We are busily engaged fixing the plunger-lift at the 85, in order, if possible, to resume the sinking of the engine-shaft next week.

EAST WHEAL LOVELL.—R. Quentrell, December 27: The mine generally is looking very well, especially in the back of the 40, on the south lode, where we are opening out a fine lode. It is 7 ft. wide, and not yet reached the south wall. There is no change in the cross-cut.

EAST WHEAL RUSSELL.—John Goldworthy, Dec. 27: In Homersham's shaft, sinking below the 140, the ground has improved, and greater progress will be made in sinking. In the 140, driving east of Roberts's cross-cut, the lode is 4 feet wide, composed of capel, quartz, prlan, mundle, and good stones of yellow copper ore—a very promising lode. In the winze sinking below the 130 the lode is 4 feet wide, composed of capel, quartz, prlan, mundle, and copper ore, worth 16t. per fathom; the water being quick renders the progress a little slow at present. In the costeaning department, the lode intersected, so far as exposed, is of a very promising character.

STANKING COPPER.—W. H. Rowe, Dec. 22: The lode in the winze sinking below the 50, from old sump, is looking exceedingly well, yielding 10 tons of ore per fathom. The lode in the winze sinking below the 50, east from new engine-shaft, is worth 4 tons of ore per fm. The south capels of the lode in the 60 cross-cut are thickly impregnated with ore, showing a very kindly appearance, producing in places solid leaders of rich quality ore, varying from 1 to 3 inches wide; we calculate to have about 4 fms. further to drive to reach the main part of the lode. During the past week the shaftmen have been principally engaged in putting down main-rods, beacons, and fixing a new 11-in. drawing-lift at the 60, which will be complete in a few days, and the shaftmen in regular course of sinking below that level. The ground in the shaft is a beautiful looking stratified kilas.

GREAT NORTH DOWNS.—W. Rich, C. Bawden, Dec. 26: The lode in the bottom of Sleggan's shaft maintains its size and value—a good course of ore. We have sent a specimen to the office from the deepest part of the shaft, to show the character and composition of the lode. The 70 end west is worth 6t. per fm. These stopes in this level are worth 30t. per fathom. We have broken good stones of ore from the north lode in the 70, west of Sleggan's, during the past few days. The water coming through this lode is very strongly impregnated with copper. We hope to complete the skip-road to the bottom of Butler's shaft by the end of the week, when we shall commence to cut through the lode, believing the main ore body is standing to the south. King's whim has been repaired, and the shaft is being put in good order, with the view to clear up the bottom of this shaft, and shall resume the driving the 86 west, towards Sleggan's, as soon as practicable.

GREAT RETAILACK.—G. R. Odgers, John Harris, Dec. 27: We have placed the men to clear out the level east and west of the main adit level, on No. 1 lode.—Trebellan Lode: The lode in the adit end south is 18 in. wide, producing some excellent work for lead. Here we have driven 3½ fathoms through a good lode, averaging about 15 cwt. of lead to the fathom, and the indications for a bunch of lead below are all that can be desired. The lode in the present end is not looking quite so well as it has been, but of this we take no notice, as we feel convinced from the lead, the composition of the lode, and the character of the ground by the side of it, that it will shortly be as good as ever. The north end is 18 in. wide, and from which we have to-day broken some good lead. Here we also think the indications are good for a bunch of lead. We are making preparations to sink the shaft 6 or 8 feet below the adit against the engine is put to work. The masons are not making so much progress as we could have desired.

GREAT SOUTH CHIVERTON.—John Nancarrow, J. George, Dec. 22: The ground in Gifford's engine-shaft is all that can be desired for the production of lead. We have just now got the lift into the lookan, or soft part of the lode, and shall sink much faster than before. The lode in the 20 end is much as usual, but we have more water. The lode in the 20 west is large, contains a great deal of prlan, lookan, and mundle, and occasionally a little lead, altogether a most promising lode.

GWYDYR PARK CONSOLS.—W. Smyth, Dec. 26: There is no change to notice in Gwyn Liffon end north since last report. The lode in the west end is still disordered by the cross lode recently cut; it is letting out more water than I have seen it since we commenced to drive in that direction.

HALLENBEAGLE.—William Bawden, Dec. 22: We have taken down part of the lode in Pinniger's engine-shaft, which is a good course of copper ore; we shall be able to say more about it in next week's report. In the 56, east of Stone's shaft, we have just seen the lode east of the cross-course, it is producing good stones of ore. In the 47, east of Stone's, the lode is 1 foot wide, producing good stones of copper ore. In the 61, east of sump-winze, the lode is 3 ft. wide, worth 6t. per fathom. The 56 fathom level cross-cut, north of Pinniger's shaft, is without change. At Reed's shaft the lode is not yet settled, but I think the branches will shortly be together again; present value 10t. per fathom. In the 53, east of Reed's, the lode is still small. In the 53, west of said shaft, the lode is 2 ft. wide, worth 6t. per fathom. Our engine is now working about six strokes per minute.

HARWOOD.—J. Race, Dec. 21: We have an improvement in the stope No. 1, north string; it is now worth ½ ton per fathom. I have no doubt but that the stopes above will be rich when they reach this point, as it always improves upwards. Stope No. 2 is worth 1 ton; and stope No. 3 is worth 1½ ton of ore per fathom. Stope No. 1 west is worth about 8 cwt. of ore per fm. We have two men working in the south branch of the north string, worth about 8 cwt. per fathom. The level going east in the vein is still poor. No other alteration to notice. LADY BRITHA.—F. J. Harpur, Dec. 27: Since our last report no particular change has taken place in any part of the mine. The lode in the 41, east of shaft, is about 3 ft. wide, composed of quartz, mundle, peach, and ore, worth of the latter 2 tons, or 6t. per fm. In the 30 east the lode is large, consisting of ore, mundle, and quartz, worth of the former 18t. per fm. We are pushing on the different operations as fast as possible.

LEAWOOD.—J. Daw, Dec. 27: We think we are through the lode at the 4½, which is full 8 ft. wide, composed of white iron, quartz, mundle, with spots of copper ore and blende—a very kindly lode. MARK VALLY.—J. Truscott, Dec. 26: The ground in the 124 cross-cut south still continues hard, consequently the progress is slow.—Marke's Lode: The 112 east is producing saving work. The 112 west will yield 3 tons per fm. The 100 east will yield 2 tons per fm. No. 1 winze, in bottom of this level, will yield 2 tons; and No. 2 winze will yield 3 tons. The 50 west is poor.—Rose-down Lode: The 90 west will yield 2 tons. The 80 west will yield 2 tons. The 70 west will yield 1 ton. The 60 west is producing saving work. The stopes continue to yield their usual quantities of ore.

MINERA UNION.—W. T. Harris, Dec. 27: Douglas's shaft, sinking below the 40 yard level, is without alteration to notice. The driving good stones of copper ore has slightly improved, and at present better progress is being made.—Brabner's Shaft: There is nothing fresh to report. The lode discovered in the big cross-cut yields good stones of lead, and when opened upon will, I have no doubt, be found to improve.—Williams's Shaft: There is no material change since my last report.

MOLLAND.—T. Bennett, Dec. 26: The lode in the 72 fm. level east is still very large; its north wall we have not seen for several weeks; the ore part, however, is the south part, which we are carrying about 4½ feet wide, and is composed of gossan, prlan, quartz, red iron, and grey copper ore, presenting a very promising appearance, and will now produce from 15 cwt. to 1 ton of ore per fm. In the winze sinking below this level the lode is 2 feet wide, of a promising character, composed principally of quartz, red iron, and grey copper ore, producing of the latter saving work; it is, however, at present divided by a small horse of kilas, which, I believe, will wear out in the course of sinking a foot or two, and may have a favourable influence on the lode; the water here is quick, coming principally from the floor we cut here two or three weeks ago.

NEW CROFT HILLS.—W. Trelease, Dec. 24: The lode in the bottom of the 40 yard level, west of engine-shaft, is now 7 ft. wide, composed of lookan, quartz, mundle, peach, jack, &c., with spots of lead occasionally, and is going down between two good walls, with an underlie of about 18 in. in a fathom; it is a monster of a lode, though poor for

August, 341 ozs.; and in September, 303 ozs. Several months since it was considered better to suspend for the present the workings at Frontino, and to concentrate operations to the mines in the Bolivia district, which are undoubtedly the most valuable of those belonging to the company. To work these effectually Mr. Rouch, the present agent, states they required to be supplied with 15000. per month for a few months longer. Remittances to this extent will (Mr. Rouch states) enable him not only to bring about an equilibrium between the monthly

CAPE COPPER.—Namaqualand, Nov. 9, and Cape Town, Nov. 19: The level driven east from Tunnel in Ookiep had intersected water, but although this had necessarily impeded the work in that level, the water that was obtained is much required for condensing the steam of the engine, and for dressing purposes. The yield for the month of October had been 709 tons; the monthly average for the last three months, 700 tons; the monthly average for the last six months, 680 tons. The ore from the Namaqualand mines, which had been sent away from the mines to the coast. Trial works had commenced at Koperberg. At the smelting-works only one furnace had been kept working, and had produced from the refuse at Springbok and Ookiep sent 4½ tons of regulus of 66 per cent., and 14 tons of metal of 88 per cent. At both of these works the residue had been dried, but 49,000 lbs. of dust had been lost. The consumption of fuel, the last month, had been 49,000 lbs. The fire-

COMPANY.—The directors have issued a circular to the shareholders, in which they state that according to the best estimate they can form the misappropriations of the late secretary will not involve the company in a greater loss than \$600, against which there will be a set-off of a quarter's salary, and some of the company's shares. The directors also state that the present salary is unduly high, and that they will endeavour to reduce the same. The following is the statement of the favourable advices they receive from their agents. The mines in the Bolivia district yielded in June 151 ozs. of gold; in July, 183 ozs.; in August, 341 ozs.; and in September, 303 ozs. Several months since it was considered better to suspend for the present the workings at Frontino, and to confine operations to the mines in the Bolivia district, which are undoubtedly the most valuable of those belonging to the company. To work these effectually Mr. Rouch, the present agent, states they required to be supplied with 15,000, per month for a few months longer. Remittances to this extent will (Mr. Rouch states) enable him not only to bring about an equilibrium between the monthly

disbursements and the value of the monthly produce of gold, but also to exhibit a positive and progressive profit. Upon this principle the directors have been acting since August 1, and they state that no circumstance has come to their knowledge which is calculated to lessen the confidence heretofore felt by them in the goodness of the mines. The call of 2s. 6d. per share just made will, they believe, enable them to provide the necessary remittance for several months, by which time they trust that the produce of the mines will itself verify the opinions which they have expressed as to the value of the company's property.

SUCCESSFUL GOLD MINING.—Upon a capital of 135,000*l.* (of which 60,000*l.* was returned) the shareholders in the St. John del Rey Mining Company have received in dividends no less than 800,250*l.*, or 72*l.* 15s. per nominal 15*l.* share, on which 12*l.* 10s. only has been paid. A reserve fund has been accumulated amounting to 41,500*l.*, and there has been transferred from reserve to capital 30,743*l.* At the annual meeting, in June, the stores at Morro Velho were valued at 39,000*l.*, and the expenditure on plant, machinery, and buildings out of profits amounted to 140,000*l.*, making an aggregate of 1,007,494*l.* The total value of the gold raised exceeds 3,000,000*l.* The net profit for the past half-year ending September was more than 50,000*l.*, and during October, in the face of an unusually heavy cost, the profit amounted to 8977*l.*—the largest that has been realised during the month of October for several years. When it is remembered that the whole of the ore raised did not give until very recently more than 4*l.* 6s. (or about 1/2 oz.) of gold per ton, there cannot be a divided opinion that the Chairman (Mr. John Distin Powles) has good ground for stating "shareholders could come to but one conclusion, that such prosperity could not be realised without the exercise of the most vigilant care and economy in every department."

MINERAL RIGHTS ASSOCIATION.—We understand that the general body of shareholders continue to offer their cordial support to the directors, and there can be no doubt of a very large majority being in favour of carrying on the business of the company. The finances are in an excellent state, and the prospects of success also good; in fact, such a company is really wanted. To prevent any misapprehension of its objects, we may mention that the prospectus stated the intention to be to carry on a similar business to the Foreign Lands Company, "in any part of the world," other objects were also stated, all of which are given at length in the following copy of the Memorandum of Association which accompanied the prospectus:—

1. The name of the company is "The Mineral Rights Association (Limited)."
2. The registered office of the company will be situated in England.
3. The objects for which the company is established are—
The examination and inspection of mineral properties situated in any part of the world.
The purchase or acquisition of mineral properties, or of any shares, rights, or interests therein, or the right to work and win minerals in any part of the world, with the view to work or to make a re-sale of same, and generally to do all such things as are directly or indirectly incidental to mining and metallurgical operations.
The partially developing of mineral properties or rights acquired by the company with a view to promote re-sale of same.
The preparation for sale, and the sale or disposal, of the properties or rights acquired by the company.
The raising or getting, developing or working, such minerals or mining rights.
The preparation, manufacture, or sale of ore, metals, or minerals.
The purchase of the business of, or the amalgamation with, any company of a similar nature.
The assisting others in disposing of properties, or in finding capital to develop the same.
The purchase of any shares, rights, or interests in any other company, and as regards any such shares, whether wholly or partially paid-up, and either entitled or subject to any preference or not, and either for cash or any other consideration, including therein the sale or transfer of any mining or other property to any such company.
The negotiation for, and the disposal of, concessions and privileges from foreign Governments.
The letting, selling, or otherwise disposing of any rights, concessions, or privileges acquired by the company.
The doing of all such things as are incidental or conducive to the attainment of the foregoing objects, or any of them.
And also such additional and extended objects of a similar nature to the above as the company may from time to time by special resolution resolve.
4. The liability of the members is limited.
5. The capital of the company is 150,000*l.*, divided into 30,000 shares of 5*l.* each.

MINING NOTABILIA.

[EXTRACTS FROM OUR CORRESPONDENCE.]

PROSPER UNITED.—The rise in the price of copper ore will materially benefit the position of this mine, as the quantity sold varies from 400 to 450 tons per month. There is besides nearly 20 tons of tin per month. There has been a good demand for the shares above the quotations, and it may be considered certain that they will have a great rise.

GREAT RETALLACK.—A good discovery having been made in this mine, and which is likely to attract much attention, we furnish our readers with a few particulars as to the nature of the improvement. The discovery is in the adit level, on No. 2, or Trebellan lode. The adit is 13 fms. from surface, and the lode in the end will produce 1 ton of silver-lead ore per fathom; and in the bottom of the level the lode is worth 2 tons to the fathom. The level is being driven at 18s. per fathom, and if the lode continues at its present value the agents hope to have from 15 to 20 tons of ore at surface in a month's time. It can scarcely, however, be expected that the ore will last for many fathoms at so shallow a depth. Should the lode fall off, the shareholders must not be discouraged, nor suffer themselves to be frightened out of their shares. To all appearances the level is going over a fine deposit of silver-lead, and the ground being of so easy a nature for explorations, but a short time will be occupied in reaching another level. The present discovery is wholly independent of No. 1 lode, which, at the last meeting of shareholders, presented such promising indications, and to develop which it was resolved to remove the steam-engine. Nothing can be done on this (No. 1) lode until the machinery is erected. The engine is being placed so as to command operations upon both lodes, and will be at work by the latter end of next month. The importance of laying open two lodes (one already of good value, and the other of great promise) at the same time will be at once recognised.

DEVON AND CORNWALL.—The lode in the 34 fathom level west is looking well, and still producing 8 tons of poor ore per fathom. This mine bids fair to become one of the trumps of 1867, and is likely to give employment to a large number of men, which is sadly wanted in the locality.

OLD WHEEL RUSSELL has made one of the best discoveries in the two counties—a splendid lode. Nothing, however, is doing on it, as the Old Wheel Russell shareholders agreed, on certain conditions, to drive a certain number of fathoms through a piece of ground supposed to belong to the South Bedford Company, but which is held by the Duke of Bedford's agents. After the Old Wheel Russell Company have expended upwards of 1000*l.*, they are now forbidden to do any more work, and the mine must remain idle until the dispute is settled. The general opinion amongst mining men is that the Duke should protect Old Russell, and let the works go on. The mine being idle keeps the men out of employment.—MINER.

WEST WHEEL FRANCES.—The engine-shaft is sunk to the 108; the lode in the end is worth 12*l.* per fathom, and likely to improve. The 95 west is worth for 8*l.* 10s. wide 35*l.* per fathom.

NORTH WHEEL CROFTY.—The mine has still further considerably improved, more particularly in the cross-cut in the 183, near Pearce's shaft, where the lode is worth 50*l.* per fathom. The other points maintain, at least, their former value.

MR. CHARLES BAWDEN, of St. Day, whose name is well known to the readers of the Journal, is negotiating for the purchase of the sets and plant of a large copper mine in the Gwennap district, which was some time since partially worked by a limited liability company but failed for want of sufficient capital. The property is situated in the richest district of Cornwall, and on the same lodes which have produced the largest amount of profits of any in England. A powerful steam-pumping engine, drawing engine, and steam capstan, are on the mine, and the necessary pitwork all fixed ready for working, under the superintendence of that gentleman; and in the face of a rising copper market, great results are looked forward to.

EXPLOSIONS IN COLLIERIES.—THE FIRE-DAMP INDICATOR.—The suggestion of Lord Kinnaird, that the efficiency or non-efficiency of Ansell's indicator should be ascertained, is one that should be at once acted upon; but great care must be taken, lest false conclusions be arrived at. It is possible, and even easy, with an Ansell's indicator, constructed to give an indication at any given point (say 5 per cent. of fire-damp in two minutes, for example), to change the atmosphere in which it is placed from pure air to pure fire-damp, without any indication being given. It would be simply necessary to place the indicator in a box of pure air, and introduce (say) 3 per cent. of fire-damp every five minutes. Mr. Ansell is entitled to the greatest credit for his skill and ingenuity in devising a most interesting philosophical instrument, but unfortunately the very principle upon which the invention is based has compelled practical men to demand the complete demonstration of the contrary, before admitting that its introduction into collieries would not lead to increased danger, and even greater loss of life.

CORNISH PUMPING ENGINES.—The number of pumping-engines reported for Nov. is 25. They have consumed 1654 tons of coal, and lifted 126 million tons of water 10 fms. high. The average duty of the whole is, therefore, 51,600,000 lbs., lifted 1 ft. high, by the consumption of 112 lbs. of coal. The following engines have exceeded the average duty:—

Chiverton—Cookney's 60 in.	Millions	57.9
Cargill Mines—Mitchell's 72 in.		57.1
Crano—70 in.		57.1
North Rose—Dector's 70 in.		54.0
North Wheel Crofty—Trevelyan's 80 in.		51.7
South Wheel Frances—Marriott's 75 in.		51.7
West Caradon—Elliot's 50 in.		50.6
West Chiverton—Hawke's 80 in.		50.6
West Wheel Seton—Harvey's 85 in.		50.7
Wheel Seton—Tilly's 70 in.		50.7

The Mining Market; Prices of Metals, Ores, &c.

METAL MARKET—LONDON, DEC. 28, 1866.

COPPER.			IRON.		
	£	s. d.		Per ton.	
Best selected.....	89	0 0	Bars Welsh, in London	7 0	0-7 2 6
Tough cake and tile ..	86	0 0	Ditto, to arrive.....	7 0	0-—
Sheathing and sheets ..	91	0 0	Nail rods	7 10	0-9 5 0
Bolts	93	0 0	Staffs, in London ..	7 6	8 17 6
Bottoms	96	0 0	Bars ditto	8 5	0-10 0 0
Old (Exchange)	77	0 0	Hoops ditto	9 5	0-10 0 0
Burra Burra	84	0 0	Sheets, single	10 0	0-11 0 0
Wire.....	0 1 0 1/2		Pig No. 1, in Wales ..	4 5	0-4 10 0
Tubes	0 1 0		Refined metal, ditto ..	4 0	0-5 0 0
BRASS.			Bars, common ditto ..	5 15	0-6 0 0
Sheets	Per lb.	10d.—	Do. mch. Tynesores ..	7 0	0-—
Wire	9d.—		Do., railway, in Wales	5 10	0-—
Tubes	11d.—		Do., Swed. in London ..	2 6	10 10 0
Yellow Metal Sheath. p. lb.	s. 1/4d.—		To arrive	10 10	0-—
Sheets	s. 1/4d.—		Pig No. 1, in Clyde ..	2 15	0-3 6 6
SPELTER.			Do. f.o.b. Tynesores ..	2 9	6-—
Foreign on the spot.....	22	5 0	Do. Nos. 3, 4, f.o.b. do.	2 6	6-2 7 0
" to arrive	22	5 0	Railway chairs	5 10	0-5 15 0
ZINC.			" spikes	11 0	0-12 0 0
In sheets	28	0 0	Indian Charcoal Pigs,		
TIN.			in London p. ton ..	7 0	0-7 10 0
English blocks	85	0 0	STEEL.		
Do., bars (in barrels) ..	86	0 0	Swed., in kegs (rolled) ..	14	0-0-14 10 0
Do., refined	88	0 0	" (hammered)	16	0-0-16 10 0
Banca	£85 10 0	8-86 0 0	Ditto, in faggots	16	0-0-17 10 0
Strait	84	0 0	English, spring	19	0-0-23 0 0
TIN-PLATES.*			QUICKSILVER (p. bottle)	6 18	0-7 0 0
IC Charcoal, 1st qua. 1 1/4	0-—		LEAD.		
IX Ditto, 1st quality 2 0	0-—		English Pig, com.	20	0-—
IC Ditto, 2d quality.. 1 10	0-—		Ditto, ordinary soft..	20	0-20 10 0
IX Ditto, 2d quality.. 1 16	0-—		Ditto (WB)	22	15 0-—
IC Coke	1 4	6-1 6 0	Ditto, sheet	21	0-—
Canada plates, p. ton ..	1 10	6-1 12 0	Ditto, red lead	21	10 0-—
Ditto, at works	12	0-—	Ditto, white	27	0-30 0 0
			Ditto, patent shot.....	23	0-—
			Spanish	19	0-19 15 0

* At the works, 1s. to 1s. 6d. per box less.

REMARKS.—As is usually the case at this season of the year, the amount of business done in the Metal Market during the past week has been only trifling; prices, however, are generally firm, and there is a decidedly brighter appearance for the future.—In COPPER an advance of 5*l.* per ton was announced on Monday, making present prices as mentioned above.—YELLOW METAL also advanced 1/2*l.* per lb. We refer our readers to our Annual Review of the Metal Trade, in another part of this day's Journal.

THE COPPER TRADE.—Messrs. Vivian and Younger (Dec. 28) write:—Much to the surprise of everyone the English smelters announced on Monday last an advance in their quotations of 5*l.* per ton all round on copper, and of 1/2*l.* per lb. on yellow metal. The demand at the late price was increasing, but there did not appear to be such a pressure on the part of the buyers as to warrant the anticipation of such an important move. But it is understood that the position taken by the holders of the raw material, and a purchase of regulus at 15*l.* by one of the associated houses, was the principal cause of the smelters coming to this sudden determination. During the week further purchases have been made of regulus at 15*l.*; and fine foreign, as well as English raw copper, has participated, to some extent, in the smelters' advance. Quotations are not very reliable, there being a wide difference between the views of buyers and sellers. The general disposition is to wait for the advice by the mail from Chili now due, as well as to see what turn things will take at the commencement of the coming year.

We commenced our first article for the present year by informing our readers that "the rise in the rate of discount to 8 per cent. had added so much to the general depression which had existed for some weeks, that there was really nothing doing;" and we may congratulate ourselves in the last article of the year that money is down again to a cheap rate; confidence is being restored; and we are slowly but surely recovering from the extraordinary depression and disasters that we have passed through since our remarks on January 6 last were written. We had money afterwards at 10 per cent., and there was nothing heard of in the City but commercial distress, and almost daily failures on a scale never dreamt of before. Firms and things, that had been for ages "household words" for probity and stability, showed their rottenness in the storm, and general consternation prevailed. That the mining interest should suffer in some degree was only natural, for miners depend on a market for their produce, and when the costs of production cannot be reduced, a fall in the price of metals, consequent on commercial failures or distrust, seriously affects the miner, and also the market for shares. On January 4 the standard for copper ore was 12*l.* 13s., at a produce of 6*l.*, and the average price per ton of ore, 5*l.* 17s. Metallic copper was at 106*l.*; tin was at 95*l.*; and tin ores about 60*l.* As time wore on, however, and the effects of the panic began to be felt, the standard dropped to 95*l.* 9s.; produce, 7*l.*; average price of ore, 4*l.* 15s., or 1*l.* 2s. per ton; making, on a mine selling 2000 tons per month, a difference in its returns of about 25,000*l.* a year! Metallic copper dropped to 86*l.*, tin to 80*l.*, and tin ore to 45*l.*, or a drop in the year of at least 15*l.* per ton on the price paid to the miner. That great depression should ensue in the MINING SHARE MARKET is, therefore, not to be wondered at, and a comparison of prices of some of the principal mines will show to what an extent it was carried. Devon Great Consols shares have declined from 590 to 400; West Chiverton, 80 to 52; West Seton, 170 to 110; Wheel Seton, 220 to 130; South Caradon, 400 to 290; East Caradon, 8 to 5; Clifford, 20 to 5; East Lovell, 14 to 9; Great Laxey, 21 to 19; Providence, 39 to 20; North Rose, 15 to 2; North Crofty shares dropped from 1*l.* to 1/2*l.*, and then rose to 3/4*l.*; Wheel Buller, 33 to 17; West Frances, 30 to 8; Wheel Grenville, 3*l.* to 1*l.*; East Grenville, 3*l.* to 1*l.*; Great Wheel Vor, 33 to 14; Tincroft, 20 to 10. It is needless to go further, though many mines have been unsaleable at any price whatever.

Tin mines suffered most, a fall of 15*l.* per ton being a very serious affair to mines returning any quantity, without being able materially to lessen their cost.

But we may remark that for the last few weeks the standard for copper ore has been getting up, and both copper and tin are firmer, and likely to advance in the early part of the new year. And should this be the case to the extent of 1*l.* per ton on ore—which it is not unreasonable to expect—and of 5*l.* to 10*l.* per ton on tin, new life will be thrown into mining, and there will be a scramble for the market for shares in good mines.

The MARKET has not shown much change since our last. In the early part of the week it was closed, owing to the Christmas holidays, and on Thursday and Friday the dealers were for the most part engaged in the fortnightly settlement. Still, however, some shares were very buoyant, and the market wore a healthy appearance, particularly for West Wheel Seton, Wheel Seton, Clifford, Prince of Wales, Retallack, North Crofty, East Grenville, Grenville, Tincroft, Prosper United, Wheel Rose, West Frances, West Basset, and a few other mines. The standard for ore is again up this week, and we understand copper has advanced 5*l.* per ton, and, probably, next week we may have to announce a rise in tin. West Chiverton declined to 52, but leave off better at 52 to 54; we do not hear of any change at the mine. The dividends this year have been 21,750*l.* (or 7*l.* 5s. per share), against 13,125*l.* in 1865; and in addition to this advance in dividends, the balance in hand has been increased, and the reserves added to. In 1867, the dividends are not likely to be less than 24,000*l.*, or 2*l.* per share quarterly, while it is possible they may be increased. This time last year the shares were at 80*l.* each, and as the price has been brought down by circumstances totally unconnected with the mine, and which, it is hoped, are now nearly at an end, there is no reason why shares should be so low, for certainly the mine is in a better position than when shares were at 80*l.* Devon Great Consols opened this year at 595*l.*, and are now at 400*l.*; the fall in the standard of ore has made a difference of 1500*l.* to 2000*l.* a month in the profits; yet the mine has paid this year 44,032*l.*, against 57,344*l.* in 1865. A great quantity of poor ores has been stocked during the low price, and the late rise in copper will materially add to the profits. The reserves of ore in the mines are valued at about 300,000*l.* West Seton, 120 to 125; the dividends paid here have been 6900*l.*, against 9600*l.* in 1865, and the rise in ore ought to increase the profits. Wheel Seton, 135 to 140; dividends, 7524*l.*,

against 11,684*l.* in 1865. North Treskerby, 2*l.* to 2*l.*; with the rise in the standard, this mine should begin dividends in February, and shares 1*l.* lower than they were a month ago.

Great Wheel Vor, 14*l.* to 15*l.*; the committee, in their report to the shareholders, regret they cannot report so favourably of the mine as they have hitherto been accustomed to do; but they have the fullest confidence that the decline is but temporary. The ground below the 184 has been of a disturbed character, but in the 204 cross-cut it is changing, and giving signs of improvement. The levels west of Ivey's shaft, in virgin ground, are very productive, and likely to be of a lasting character. The committee hope to keep up the dividends, with the prospect of an increase should a rise take place in tin, or the mine improve; and to wait for better times, and husband the reserves appears, they think, to be the best policy. The dividends paid this year have been 12,110*l.* 12s. 6d., against 20,678*l.* in 1865. Great Laxey, 17 to 17*l.*; the dividends have been 20,000*l.*, against 33,000*l.* in 1865, which was an exceptional year as regarded a bonus. We understand the mines are looking well, and likely to pay good dividends for years. Prince of Wales shares kept steady all the week, at 25s. to 27s.; and there is no material alteration in the mine. This time last year shares were at 6s. Great Retallack shares have advanced to 22s. 6d., 25s., and there is no doubt, if the lode opens out well in depth, as there is reason to expect, the mine will be one of the prizes of 1867. Wheel Buller, 17*l.* to 19*l.*; the different points of operation in the mine are valued at 165*l.* per fm. in the aggregate, and there are 23 pitches, set to 67 men, at an average of 10s. 6d. in 1*l.* This time last year shares were over 30*l.*, and the mine is now in a better condition than it was then. Chiverton Moor, 4*l.* to 5*l.*; adjoining West Chiverton, and on the run of its lode, this mine ought to take a good position in 1867.

Marke Valley, 4 to 4*l.*; the 112 west, on Marke's lode, is worth 3 tons of ore per fathom; the 100 east, 2 tons per fathom; the ends on Rosedown lode are turning out 5 tons per fathom. The standard will greatly assist here. Chontales Gold, 2*l.* to 3*l.*; Clifford Amalgamated shares have advanced to 8*l.* 9s., as any rise in copper will assist it materially; Cook's Kitchen, 8 to 8*l.*; Drake Walls, 8s. to 10s.; East Basset, 21 to 23; East Caradon, 5*l.* to 6*l.*; East Carn Bren, 2*l.* to 2*l.*; East Lovell, 8*l.* to 9*l.*. Prosper United, 3 to 3*l.*; the bottom level is worth 20*l.* per fathom, and with a better price for copper, the mine will soon make a good profit. East Russell, 2*l.* to 2*l.*; East Wheel Grenville, 2 to 2*l.*; Frontino, 1s. 6d. to 2s. 6d.; Great North Downs, 2*l.* to 3*l.*; Great Wheel Fortune, 4 to 4*l.*; North Crofty shares have advanced to 3*l.* 3/4; Providence Mines shares have advanced to 25, 27; Rosewall Hill and Ransom United, 15s. to 20s.; South Caradon shares have advanced to 300, 310; South Condurrow, 11s. to 13s.; South Frances, 22 to 24; South Grenville, 7s. 6d. to 10s.; Tincroft, 12 to 13; West Caradon, 12*l.* to 14*l.*; West Frances, 13 to 14. Wheel Chiverton, 6*l.* to 7*l.*; these shares are about half the price they were formerly, and the prospects better. Wheel Crebor, 12s. to 14s.; Wheel Grenville, 25s. to 27s. 6d.; Wheel Uny, 1 to 1*l.*; Great South Tolgus, 7s. 6d. to 10s.

The market for mine shares has during the week been much more active than for some time past. The improving aspect of the market for tin and copper has assisted prices greatly. West Chiverton shares have been in especial request at 53 to 55, and the tendency of the market is towards further improvement. The mine is very favourably reported on, and is certainly looking better than when shares were selling at 84*l.* Chiverton shares are also enquired for at 63 to 7*l.* Westminster Lead (Limited), 5 to 5*l.*; the prospects for a great and profitable mine are of a high order. The Deep Level Mining Company is unwavering the eastern part of the sett. A considerable business has also been done in foreign mines. St. John del Rey, 49 to 51 (ex div.); Cobre, 1*l.* to 1*l.*; Pestarena, 1*l.* to 1*l.* prem.; United Mexican, 1*l.* to 1*l.*; Port Philip, 1*l.* to 1*l.*. Chontales have been in demand, and close 1/2*l.* to 1*l.* prem. Panulillo Copper, par to 1*l.*; Don Pedro, par to 1*l.*; Anglo-Brazilian, 1/2*l.* to par; Yudanumutana, 1*l.* to 1*l.*. Chiverton, 6*l.* to 7*l.*; Drake Walls, 1*l.* to 1*l.*; East Russell, 3 to 3*l.*; Great Vor, 14*l.* to 15*l.* (ex div.); Herodfoot, 32 to 34; Great Laxey, 17 to 17*l.* (ex div.); South Condurrow, 1*l.* to 1*l.*; Devon Consols, 400 to 410; East Caradon, 5*l.* to 6*l.*; Tincroft, 11*l.* to 12*l.*; Clifford, 8 to 9; Providence Mines, 24 to 26; West Chiverton, 62*l.* to 65; Prosper United, 2*l.* to 3*l.*; East Lovell, 9 to 9*l.*; West Seton, 120 to 125; Seton, 137*l.* to 142*l.*; East Basset, 23 to 25; New Seton, 35 to 45.

THE SWANSEA COLLIERY COMPANY, with a capital of 30,000*l.*, in shares of 10*l.* each, has issued its prospectus, the object of the undertaking being to work about 328 acres of coal lands, situated 3 1/2 miles from Swansea, and held under leases for unexpired terms of 60 and 42 years respectively, upon favourable rents and royalties. There are facilities for connecting the pits with both broad and narrow-gauge lines, and the situation of the property is otherwise as favourable as could possibly be desired. It is mentioned that there are six workable seams of coal at moderate depths, well adapted for house, smiths', coking, and general manufacturing purposes, and estimated to contain more than 8,000,000 tons. Upon the upper one of these a colliery has been opened, and is now in operation, the workings clearly showing that the mineral features of the property are very favourable for the extensive opening of the lower seams. It is proposed to confine the operations at present to the enlargement of the existing colliery and workings, to the sinking of pits, and establishing an effective winning on the "Four-foot" coal, and to the constructing of a short line of railway, to connect the collieries with the Wuanarwlydd siding, on the Great Western Railway, which is now in good working order, and will afford excellent accommodation. It is estimated that with an outlay of 14,000*l.* the collieries could be made equal to a regular output of 100,000 tons of coal per annum, giving a yearly profit of over 7000*l.* The property has been carefully inspected by Mr. H. Huxham, C.E. and M.E., of Swansea, and his report upon it, which enters very fully into the details of cost and revenue, is of a very favourable character.

At Redruth Ticketing, on Thursday, 1906 tons of ore were sold, realising 9027*l.* 13s. 6d. The particulars of the sale were:—Average standard, 102*l.* 18s.; average produce, 7*l.*; average price per ton, 4*l.* 14s. 6d.; quantity of fine copper, 138 tons 13 cwt. The following are the particulars of the sales during the past month:—

Date.	Tons.	Standard.	Produce.	Per ton.	Per unit.	Ore copper.
Nov. 29.....	2041	£ 95 9 0	7 1/2	£4 15 0	12s. 11d.	£69 8 0
Dec. 6.....	3449	101 3 0	6 1/2	3 17 0	11 10	59 0 0
" 13.....	1977	102 19 0	6 1/2	3 19 0	12 2	69 15 0
" 20.....	3359	103 0 0	6 1/2	4 5 0	12 11	64 11 0
" 27.....	1906	102 18 0	7 1/2	4 16 0	13 0	65 0 0

Compared with last week's sale, the advance has been in the standard 2*l.*, and in the price per ton of ore about 2s. 6d. Compared with the corresponding sale of last month, the advance has been in the standard 5*l.*, and in the price per ton of ore about 7s.

The following dividends have been declared during December:—

The following dividends have been declared during December.		
Mine.	Per share.	Amount.
Great Laxey	£0 10 0	£7,500 0 0
Great Wheel Vor	0 7 6	2,518 0 0
Wheel Seton	4 0 0	1,584 0 0
West Wheel Seton	2 10 0	1,000 0 0
Dolcoath	2 0 0	716 0 0
Cwmystwith	5 0 0	640 0 0
Wheel Mary Ann	0 10 0	512 0 0
Brookwood	0 2 6	500 0 0
Wheel Treilawny	0 5 0	260 0 0
St. John del Rey	4 0 0	44,000 0 0
Pontgibaud	1 8 6	11,750 0 0
Total		£69,677 0 0

WATSON AND CUELL'S MINING CIRCULAR

WATSON AND CUELL,
MINING AGENTS, STOCK AND SHARE DEALERS, &c.
1, ST. MICHAEL'S ALLEY, CORNHILL, LONDON.

Messrs. WATSON AND CUELL having made arrangements for transferring their weekly Circular, which has had so large a circulation during the past ten years, to the columns of the *Mining Journal*, their special reports and remarks upon mines and mining, and the state of the share market, will in future appear in this column.

In the year 1845, when Cornish mining was almost unknown to the general public, attention was first called to its advantages, when properly conducted, in the "Compendium of British Mining," commenced in 1837, and published in 1843, by Mr. J. Y. WATSON, F.G.S., author of "Gleanings among Mines and Miners," "Records of Ancient Mining," "Cornish Notes" (first series, 1862), "Cornish Notes" (second series, 1863), "The Progress of Mining," with statistics of the Mining Interest, annually for 21 years, &c., &c. In the Compendium, published in 1843, Mr. WATSON was the first to recommend the system of a "division of small risks in several mines, ensuring success in the aggregate," and Messrs. WATSON and CUELL have always a select list on hand. Perhaps at no former period in the annals of mining has there been more peculiar need of honest and experienced advice in regard to mines and share dealing than there is at present; and, from the lengthened experience of Messrs. WATSON and CUELL they are emboldened to offer, thus publicly, their best services to all connected with mines or the market, as they have for so many years done privately, through the medium of their own Circular.

Messrs. WATSON and CUELL transact business in the purchase and sale of mining shares, and other securities, payments of calls, receipt and transmission of dividends, obtaining information for clients, and affording advice, to the best of their knowledge and judgment, based on the experience of more than 30 years active connection with the Mining Market.

Messrs. WATSON and CUELL also inform their clients and the public that they transact business in the public funds, railway, docks, insurance, and every other description of shares dealt in on the Stock Exchange.

Messrs. WATSON and CUELL are also daily asked their opinion of particular mines, as well as recommended mines to invest in, and people would not give their advice and recommendations to the best of their judgment and ability, founded on the most practical advice they can obtain from the mining districts, but they will not be held responsible, nor subject to blame, if results do not always equal the expectations they may have held out in a property so fluctuating as mining.

Messrs. WATSON and CUELL having agents and correspondents in all the mining districts, and an extensive connection among the largest holders of mining property, have the more confidence in rendering their advice on all matters relating to the state and prospects of mines and mining companies, and are able to supply shares in all the best mines at close market prices, free of all charge for commission.

RETROSPECTION.—When the Bank rate was at 10 per cent., and the panic at its height, we ventured to express an opinion in this place that in a few months money would be down to 3 or 4 per cent., and people would not know what to do with it. Both these things have come true; and after the great depression which has so long existed in shares, a list may be made out, with almost a certainty of great profits, and such a list we shall be happy, as usual at this season, to forward to our friends. And in wishing a happy New Year and prosperous to "One and All," let us at the same time that we feel thankful for having, at last, got through one of the most trying and disastrous commercial years ever known, also congratulate ourselves that the prospects for the future are brighter and more cheering. To write a history, or give a review, of the past 12 months would occupy half the *Journal*. Besides it is not always well to touch upon sores that are not healed, and which will smart for many a day. Mining, though dull, depressed, and unfortunate, through circumstances really unconnected with it, has nothing to reproach itself with this year that will in any way approach the evils of financial and other schemes; such as we have not only avoided ourselves, but have constantly cautioned our friends, privately, against. No one goes into mining without knowing that he goes into a speculation, wherein he may make enormous profits in a short time, or may easily calculate his loss. But in these financial companies, in such things as "Overend and Gurney's," and railway debentures, many people invested their all with unbounded confidence, and now find themselves not only ruined, but with heavy liabilities hanging over them; and thus many a man who commenced the year 1866 with a good fortune finds himself a beggar at its close. The year began with war, then came commercial distress, an unprecedented panic, gigantic frauds and failures, cattle plague and cholera, and it ends with colliery explosions and fearful loss of life. Few, indeed, have escaped some sort of distress—but let us drop a curtain over the horrors, and return to mining affairs. This time last year there were 200 mines in the Cornish district alone in suspension, and that was the Prince of Wales; through good report and evil report we stuck to it, and advised all who read our remarks to buy at 1s. 6d. to 5s. per share. A great many did so, and it has been a source of some gratification to the writer to see them reach 2s. per share (though he did not take advantage of it), and to find that the mine has been the greatest prize of the year, and bid fair to be a still greater prize in 1867, and to make the price we predicted—5s. per share. Almost without exception other mines have declined in price, and some to such an extent, owing to the exceptional state of the money market and the price of metals, that a selection may be made from them to the greatest advantage, and many of them will be referred to more particularly in the City Article.

"J. R."—There is no change that we hear of in New East Russell. We hope to see the mine turn out as great a success in 1867 as Prince of Wales has in 1866.

THE UPPER COAL MEASURES.—At the Manchester Geological Society Mr. Binney, in reading a paper on the Upper Coal Measures of England and Scotland, explained how those measures were distinguished, and said he thought they could best be identified by their proximity to the spirobolic limestone, which was divided into twelve beds in Manchester. This limestone was to be found at a distance of 200 miles, extending from the coal fields in the Forest of Wyre to Ayrshire, though in some of those fields it was only in a single stratum. The limestone was the best developed in this district at Ardwick, and more beds might yet be found. The subject touched closely on the question of coal supply; he would not venture to make any prophecy regarding that matter, for before one could do so it should be known where our present coal fields ended. We did not yet know with certainty where the Carboniferous strata terminated, and the Permian began, and higher Carboniferous and lower Permian beds might yet be found. There were 200 or 300 ft. of the upper coal measures in the Forest of Wyre, and of that valuable mineral, but as we travelled southward, in North Staffordshire and Shropshire for instance, there are some good seams. But this state of things was reversed with regard to the lower coal measures, for in Scotland the coal fields went as deep as the top of the Old Red Sandstone, and a great part was under the mountain limestone and millstone grit. The lower coal fields were the best developed towards the north of the island, and the upper coal fields were the most productive towards the south. The question of an extension of coal supply required a good knowledge of the upper coal measures, and the relative position and thickness of the rock beds. Some of the beds of the Permian rocks were extremely variable, and no one could predict how and where they would occur. In some places a single rock would be 1000 ft. thick, to say nothing of the Trias, through which some people talked of sinking as well as the Permian. One of the most disagreeable and variable beds in this district was the New Red Sandstone, which was in some places 500 ft. thick, and perhaps a few miles away it would be so thin as scarcely to be noticeable. Between Derby and Fife-shire, by way of Chesterfield, Leeds, and Northumberland, there was no trace of the upper coal measures, and he estimated that over that area there must be wanting, as compared with the Manchester and North Staffordshire coal fields, 2000 ft. to 2500 ft. of strata. Those upper coal measures were most perfect in Lancashire, Staffordshire, Warwickshire, the Forest of Wyre, and the Shropshire coal districts, and wherever else the Triassic and Permian formations could be found. The consideration of coal supply involved the question as to whether we could get at the coal fields under the red measures—such, for instance, as the extensive plain between Darlington and Leeds. All that could be done in testing those measures was to get every possible information respecting the thickness to be sunk through, and the position of the coal strata before they became hid by those measures.

IMPROVED PUMP.—The efficiency of Giffard's injector, in supplying water to steam-boilers, appears to have led to the adaptation of the same principle to the raising of water from mines, the *American Journal of Mining* publishing an illustrated description of a pump of this kind which has just been tested in New York. The pump has been named the Steam Syphon Pump, and is introduced by the Steam Syphon Company, of Jersey City. Its construction and mode of operation is notably simple. When steam is turned on, it rushes from the steam-pipe across a globe valve into the discharge pipe, and thence being exhausted from such chamber the water from the suction pipes (of which there are two—one on each side of the steam-pipe) rushes in to take its place. The steam jet continuing the water is driven forward through the discharge pipe with velocity proportionate to the pressure of the boiler. It is an independent lift and force-pump, without piston, plunger, valve, or movable parts of any kind, and is, therefore, less liable to wear and tear, breakage and clogging, than other pumps, and cannot freeze up. Even lumps of coal can pass freely through it. It must prove invaluable on board steam-vessels. A trial was recently made at the Brooklyn Navy Yard, and the Board of Examining Engineers and their report by saying: "The syphon pump raises in a given time 41-7 per cent. more water than the steam pump, having the same area of discharge, and in doing so consumes 48 per cent. more coal, therefore, in economy of fuel the two kinds of pumps are nearly equal, but the syphon pump has superiority in the large bodies of water it can discharge in a given time; in its cost, in occupying less room in a vessel, in its not being liable to get out of order, its certainty of action, and unusual simplicity, there being no valves nor pistons to get deranged or choked by chips or dirt. We unhesitatingly recommend it for relieving the holds of vessels from bilge water, and for discharging ashes from the fire rooms." We also recommend that the one now on board the *Narragansett* be retained and paid for. For railway service and as a fire-pump it is also well adapted. It has not yet been tried in deep mines, but we see no reason why, when tried, it should not prove a success. In sinking to a depth of 80 ft., it is claimed that they are all that can be desired, as they can raise a column of water from that depth with a pressure of 80 lbs. to the inch. In the case of deep mines, the company recommend a series of steam syphons and tanks, one above the other at distances of 80 ft. apart—the steam for creating the necessary vacuum being conveyed to each hollow sphere by a pipe covered with a steam jacket. The exhibition appeared to be quite satisfactory.

WELDING MIXTURE.—Mr. W. A. Sweet, of Syracuse, sends to the *Scientific American* the following recipe for using on cast-steel in welding and in restoring burst steel. He says:—"It is the best preparation I have ever seen or used:—1½ lb. of borax, ½ lb. of sal ammoniac, ½ lb. of potassium, 1 oz. of resin, 1 gill of alcohol, 1 gill of water. Pound fine, and boil in an iron kettle slowly until it becomes a thick paste. Use as borax."

LONDON GENERAL OMNIBUS COMPANY.—The traffic receipts for the week ending Dec. 23 was 17,794. 1s. 6d.

Notices to Correspondents.

♦♦ Much inconvenience having arisen in consequence of several of the Numbers during the past year being out of print, we recommend that the *Journal* should be filed on receipt: it then forms an accumulating useful work of reference.

DEPTH OF COLLIERIES.—Can any of your correspondents furnish the names of pits in Yorkshire and Staffordshire exceeding 500 feet in depth?—H. F.

GURLYN.—Can any correspondent inform me what has been done in reference to this mine? At the time it stopped working it was stated there were large assets, and though it is now two years since, I am not aware what course has been pursued, and will feel obliged for any information.—ISQUIRER.

STEATITE.—Can any correspondent inform me where I shall obtain a few tons of good Steatite, and at what price?—J. C.

COAL-CUTTING MACHINES.—A. W. F.—No coal-cutting machine has yet proved so efficient as to entitle it to be recommended in preference to others. Machines have been introduced by Messrs. Garrett, Marshall, and Co., Leeds; Firth, Donisthorpe, and Co., Britannia-street, Leeds; Levick and Co., Blairston, Newport, Monmouthshire; and others.

GOLDEN DOUBTS AND FEARS.—In last week's *Journal* there are some remarks by Mr. T. W. Salter on the golden doubts and fears of Welsh gold mining. Unfortunately he pays too high a compliment to the success of the celebrated Welsh Gold Mining Company, as I see in the same *Journal* a meeting for the winding-up of this company. I, nevertheless, agree with the theory Mr. Salter lays down; and if they had first developed the lodes of Cefn Coch, and after being satisfied with the results, would have been ample time to erect their 150-horse power engine. But now it is different; the fondest hopes of all sanguine shareholders are gone, the lodes are still undeveloped, and the mine looks more like an abandoned foundry, or an establishment for the accumulation of old iron. I have still hopes that a day will come when this mine will pay for working, if properly managed.—A SHAREHOLDER.

GREAT NORTH DOWNS.—This property has given enormous profits to former proprietors; I cannot say exactly what amount, but looking at the great extent of lode removed in the shallow levels, and which appears to have been very productive for hundreds of fathoms in a longitudinal direction, I should think the profits realised must have been fully 300,000l. The mine appears to have failed in depth, having reached a poor floor of ground, and was abandoned; but by sinking Siegan's shaft the present party have reached the second deposit of strong yellow copper ore, richer and apparently of a more durable character than has hitherto been found in the mine at any former period.—A WELL-WISHER TO MINING.

DEVON WHEAL LOPES.—A correct report of this mine can be obtained by applying to John Pomroy, Dorridge, near Tavistock, stating the number and depths of the different shafts sunk, as well as levels driven on the course of the lode by the ancient workers; the character and produce of the lode in the different levels, and other particulars.

PENNANT SLATE COMPANY (Limited).—The number of shares upon which calls have been made is 3725, which at 2s. 10s. = 3912. 10s.; the vendors have been paid 4000l., leaving 5312. 10s. for developing the quarry, which is equal to 40l. per week, sufficient to keep constantly at work 30 men. I have received two annual reports, but of which contain much information. I have written to the directors, and seen the managing director, and still I cannot learn anything satisfactory. The shareholders are now, by requisition to the directors, requesting a meeting of shareholders to be called. As you were so kind as to state the position and prospects of the quarry at its formation, will you now please inform the shareholders the present position of the quarry, and what are its future prospects?—JOHN HIRST.

A pressure on our space compels us to postpone several matters intended for this week's *Journal*, among them the conclusion of the Development of the Iron Trade—the Mineral and Industrial Resources of Newfoundland—the Mineral Resources of Hayti—Safety in Colliery Workings—the Safety-lamp and the Fire-damp Indicator—Submarine Telegraphy—Algeria—Coal Statistics &c. Coal strikes.

THE MINING JOURNAL,

Railway and Commercial Gazette.

LONDON, DECEMBER 29, 1866.

During the quarter ending Dec. 31 the quantity of copper ore, the produce of Cornwall and Devonshire, sold at the Cornish ticketing, was 32,183 tons, which contained 2185 tons 3 cwt. of fine copper, and realised 135,973l. 6s. 6d., being equal to an average of 4l. 4s. 6d. per ton of ore, and 62l. 4s. 6d. per ton of copper in the ore. During the same period, the British, colonial, and foreign ore sold at Swansea amounted to 5172 tons, which contained 681 tons 13 cwt. of fine copper, and realised 47,577l. 11s. 6d., being equal to an average of 9l. 4s. 6d. per ton of ore, and 70l. 1s. 6d. per ton of copper in the ore. The average produce of the ore sold at the Cornish ticketing was 6½ per cent., whilst that sold at Swansea gave an average produce of about 13-16 per cent. From this it will be seen that the aggregate sales by ticket were 37,355 tons of ore, containing 2866 tons 19 cwt. of fine copper, and realising 183,730l. 17s. 6d. The subjoined is a summary of the periodical sales at the Cornish and Swansea ticketings respectively:—

The ore sold at the Cornish Ticketings was—									
Date.	Stand.	Prod.	Price.	Per unit.	Tons ore.	Fine cop.	Amount.		
Oct. 4.	£106 16	6½	£3 18 0	128.6	3793	236 10	£14,830 12 0		
11.	102 3	7	4 8 6	12 7	2261	158 18	10,912 11 6		
18.	107 0	6½	4 2 0	12 9½	4013	257 0	16,172 0 0		
25.	98 11	7½	4 18 0	12 7½	1917	148 14	9,385 4 0		
Nov. 1.	101 19	6½	4 6 0	12 6	2171	150 4	9,343 11 6		
8.	104 8	6½	3 12 0	11 7½	1370	83 8	4,912 14 6		
15.	104 19	6½	3 17 6	12 3	3904	216 11	15,134 6 0		
22.	95 9	7½	4 15 0	12 1	2941	188 9	11,387 0 0		
Dec. 6.	101 3	6½	3 17 0	11 10	3110	224 5	13,223 17 0		
13.	102 19	6½	3 19 0	12 2	1977	128 19	7,306 18 6		
20.	106 0	6½	4 5 0	12 11	3490	223 12	14,376 5 0		
27.	102 18	7½	4 14 6	13 0	1906	138 13	9,927 13 6		
Total for the quarter									
Quarter ending Sept., 1866.....							32,183	2185 3	135,973 6 0
Quarter ending Oct., 1866.....							33,761	2186 11	135,642 0 0
Quarter ending June, 1866.....							34,466	2124 18	145,155 19 6
Quarter ending March, 1866.....							36,711	2220 1	167,493 4 6
Total for the year									
Showing a quarterly average of ..							31,280	2179 4	145,635 14 0
Corresponding quarter, Dec., 1865.....							38,236	2399 6	197,775 3 0
Total for the year 1865							159,409	9750 5	757,494 13 0

The ore sold at the Swansea Ticketings was—									
Date.	Stand.	Prod.	Price.	Per unit.	Tons ore.	Fine cop.	Amount.		
Oct. 2.	£97 2 0	11½	£8 5 4	148.8	1364	183 9	£11,280 1 6		
Nov. 29.	92 1 3	15½	10 11 0	12 11½	2717	410 19	28,665 9 0		
Dec. 4.	99 11 3	10½	7 3 3	11 4	1091	117 5	7,812 1 0		
Total for the quarter									
Quarter ending Sept., 1866.....							5,172	681 13	£47,757 11 6
Quarter ending Oct., 1866.....							8,866	1154 12	78,340 0 0
Quarter ending June, 1866.....							15,278	2390 14	176,243 1 6
Quarter ending March, 1866.....							6,832	976 18	81,559 4 6
Total for the year									
Showing a quarterly average of ..							9,037	1301 0	95,974 19 6
Corresponding quarter, Dec., 1865.....							2,406	343 17	27,321 9 6
Total for the year							25,217	3704 0	299,370 3 6

THE "BLACK COUNTRY."

Considerable prominence has recently been given to this part of the country, owing to the visit of HER MAJESTY to Wolverhampton, and the result has been that no small number of inaccuracies have crept into the descriptions of the physical and social characteristics of this vast industrial centre. When we bear in mind that the locality usually designated the "Black Country" raises annually about 10,000,000 tons of coal, and nearly 1,000,000 tons of ironstone; that it makes nearly one-sixth of all the pig-iron produced in the country, and not only converts this into finished iron of good quality, but that this again is turned into tubes, nails, chains, anchors, janned goods, locks, railway wheels, and hundreds of other articles coming under the general head of hardware, we are at once struck with the vastness of the industries carried on in South Staffordshire. It must be admitted that the general aspect of the place is not prepossessing. Its cloud of smoke, arising from thousands of chimney stacks; its blazing blast and forge furnaces; its immense slag mounds, looking like artificial mountains; its great extent of unproductive pit mounds; and the absence of any large tracts of agricultural land, stamp the

district with an unpleasant look. The mass of inhabitants, too, are, from the nature of their employments, somewhat rude and uncultivated in outward appearance. Not only this, but they have been "written down" by special commissioners of various kinds, who have viewed matters through a highly contorted medium, and have succeeded in framing grand reports with very little actual truth in them. There have been Education Commissioners, Employment Commissioners, Health Commissioners, and others, so that the Black Country is duly registered in no small number of blue-books. Its name is also bad to begin with; as it was said of old—"Better hang a dog than give him a bad name." Hence we are not surprised to find that the late Royal visit called forth from some writers, personally unacquainted with the district, accounts which were grossly untrue, and which were a foul libel on one of the most important of our mining localities. We refer to the strictures contained in recent issues of *Punch*; where we are told that in this Black Country there are many people who know as little of a Queen as of a God; that a holiday is an "unwonted" pleasure; that the inhabitants are "chained to the clod"; that all stamp of sex is beaten out; that so the iron be but forged and the gold hived, few care how God's grace is dispensed or the Devil's sway gains hold; that it is an "unhallowed" place; and a great deal more in a similar strain.

The above remarks, which have justly caused a storm of indignation throughout the district, appear to have been founded on the Blue-books before referred to; for in another issue we find that an attempt is made to justify the sweeping insinuations previously made. This attempt, we must confess, is a sorry failure. The extracts given from Commissioners' reports are not sufficient to justify the remarks we allude to, even were they correct; but we have it, on the evidence of persons who are acquainted with the whole district, that some of the reports are most unfair, and are entirely untrue. Mr. LONGE states that the people are very much isolated, as all the employers live away from the locality. This is false: for in every part of the coal field may proprietors and manufacturers be found living close to their works. At the time Mr. LONGE made this wilful perversion of facts he must have known—for he is said to have visited the place—that the Chairman of the Iron Trade, the late Mr. PHILIP WILLIAMS, resided in the midst of his collieries and works; whilst the same may now be said about a great number of the larger as well as the smaller proprietors. We are informed that the employers take as active an interest in the welfare of their men as do those in other districts—at all events, churches and schools are very numerous, and large sums of money are annually given in prizes to the scholars, from a fund raised by the iron and coal masters themselves. The sick and field clubs at collieries and works are numerous and well supported, so that we fail to see how the employers can be charged with neglect. The moral character of the people, too, is far above the standard assigned them by *Punch*. All stamp of sex beaten out indeed! Such a statement is a foul libel on thousands of women who are quite equal to those in any part of the country. There is now very little female labour on pit banks, scarcely any at the blast-furnaces, and none in connection with the mills and forges. Even were this the case, we fail to see why female labour under such circumstances should be more reprehensible than in that of farm work. As long as there are mouths to be fed, it will be necessary for some women to get their living by working, or they must be placed on the parish. Granted, then, that free labour is preferable to pauperisation, we see no reason to make so much noise about females working on pit mounds or even at blast-furnaces. We admit that it would be a much more social state of things were poverty unknown; but we have to deal with the hard facts of every-day life, and not with philanthropical and theoretical notions of it. Altogether, we have no hesitation in condemning the reckless manner in which this district has been attacked, and we are glad to find that the matter has aroused the attention of the authorities in the neighbourhood. Whatever the Black Country may be, it is not the heathenish, savage, uncivilised place which it has been represented to be, and if anyone doubts the fact, he cannot do better than make personal inspection, and place himself in communication with those who are best able to speak authoritatively on the subject.

MINING, METALS, AND MINERALS—PATENT MATTERS.

By M. HENRY, Memb. Soc. Arts, Assoc. Soc. Eng.

A regulation has been recently issued by Her Majesty's Commissioners of Patents for Inventions, which cannot fail to be of interest, not only to patent agents, but to applicants for patents also. The nature of this regulation is to require the deposit with the provisional specification of a short statement of the nature of the invention, pointing out, in as brief a manner as possible, the novel features of the same. The object of this arrangement has not been made known in the published order on the subject; but if a provisional specification itself were, as might be inferred from the language of the Act of Parliament, what it was intended to be—a statement of the nature of the invention sought to be patented—this supplementary statement which is now required would have been superfluous. Since, however, certain details have been exacted—or allowed to pass—in the provisional specification, that document has extended beyond what it may be conceived was originally contemplated. Under these circumstances, either the provisional should be confined to a description of the nature of the invention, or some succinct statement may certainly be convenient, to avoid the necessity of wading through such voluminous instruments as are sometimes presented under the designation of a provisional specification. But if, however, the short statement now required be only intended as a substitute for the present abridgements, it is submitted that it would be preferable if this summary were exacted either when the final specification is filed, and the invention has reached maturity, or, at least, before the issue of the certificate of allowance, as sometimes there is great urgency to effect deposit of an application within a certain time, and every half-hour then becomes a matter of importance. Care should be taken to retain to inventors the advantages contemplated by the Act of 1852, by the system of the provisional specification enunciated in that statute; and, though this instrument should not be vague or indefinite, still a certain amount of latitude is necessary to ensure to an inventor the full benefit of a provisional protection; such as the opportunity it affords for maturing and exactly defining his invention, for rendering it fully practical, and for searching into previous patents and publications, and thus avoiding too extensive and, therefore, dangerous claims. The invention cannot be fully fledged in its "provisional" condition, and hence some misapprehension or eventual difficulty might possibly attend the deposit of a distinct statement of features of novelty (under the authority of the applicant or his agent) contemporaneously with the deposit of the first application for protection.

The incidence of the Christmas week, and the festivities attending this season of the closing year, may have possibly interfered with the full flow of patent applications. However, the recent deposits of petitions for patents relating to the present subject include those by HENRY, 5s. Fleet-street, patent agent (communication from Louis Gignard), for pumps and pipe junctions.—BAKER, lighting fires.—NEWTON (communication from Olivier), consuming pulverulent substances.—WEBER setting steel pens.—CLARK (communication from Moret and Raux), producing furnace draft, and purifying smoke.

The sealed patents comprise POUPOARD, screening coals and other materials.—WYATT, screening.—GRIFFIN, combining India-rubber with metallic substances.—MICHAEL HENRY, Fleet-street (communication from Leon Foucault), governors.—LAKE (communication from Earle), steam pumps.—GRIFITHS and BEARD, furnaces and furnace bars.

The following notices to proceed having been lodged, any opposition intended to them must be deposited on or before Jan. 15:—MARCHAL, combustion and prevention of smoke, and increasing heating power of fuel.—DE RUSSETT and DALE, pumps.—WEBSTER, coating and re-covering metals.—JOHNSON (communication from Sebille), pavement.—GUENIER LAUBAC, casting iron.—BROOMAN (communication from Blizard and Labarre), storing petroleum.—NEWTON (communication from Habicht), submarine excavations.—ROBINSON, economising fuel.

Mr. ABEL has patented, as a communication from Mr. Reese, of Pennsylvania, an improved process and apparatus for reducing metallic oxides. The specification, which has been recently filed, comprises a large number of claims. Some of these relate to the process, others to the apparatus. Modes are described and claimed by which it is proposed to deoxidise molten or fluid metallic oxides by means of hydrogen gas, or a vapour of carbon or hydro-carbon, or by a mixture of such vapour or gas. Also liquid petroleum or other liquid hydro-carbons may be used. Molten iron ore may also be subjected to hydrogen gas, hydro-carbonated vapour, a vapour of carbon, or liquid hydro-carbon. Substantially it is proposed to deoxidise molten iron ore till pure iron is produced, and this is treated with a vapour of carbon or hydro-carbon, and a liquid carburetted or hydro-carbon may be added. The inventor also describes and claims the construction of a deoxidising chamber or reducer, with a belly in the lower side for the purpose of holding the charge of molten ore away from the tuyere-holes in the bottom of the reducer, until the latter is raised to admit the deoxidising vapour or liquid. Also one of the trunnions of the reducer may be provided with a valve, in order to shut off the deoxidising vapour or liquid when the reducer is in position to receive the charge, and to open the passage for the molten ore, such vapour or liquid when the reducer is ready for working. There are other matters claimed.

The question of economising the consumption of coal has become of such importance, that efforts should be directed to this object in channels

other than those of the employment of this valuable agent for industrial or manufacturing purposes. A large amount of coal is wastefully consumed daily and hourly for domestic purposes: our ordinary English mode of burning coal at haphazard in open grates in our kitchens, sitting rooms, and other apartments, is an extravagant, and not always judicious, method of obtaining heat for the ordinary purposes of health, cooking, or comfort. The upward draught, probably, carries a considerable portion of heat up the chimney, and often conveys little into the atmosphere of the room. In large rooms only those in the immediate neighbourhood of the fire get much advantage from its heat. Moreover the time lost and the trouble involved in kindling a fire in an unwarmed room are sources of signal discomfort. Now, in the houses of New York, in which appliances for domestic comfort are of a nature to attract the admiration of strangers, fires are provided, fed with heated air from a stove in the basement, and communicating with the various apartments by openings furnished with registers or doors, which may be readily closed and opened. Hence a room may be warmed rationally and rapidly by merely opening one of the registers, so as to admit a supply of warm air. A patent has been recently taken out in this country by DAVIES (as a communication from D. G. Huskins), bearing on this excellent mode of warming apartments. It certainly merits attention, as possibly sooner or later architects may be called on to consider the question of a more convenient and economical method of heating domestic apartments than the method which is in ordinary use in England. The inventor proposes to utilise all the heat eliminated from the flame of gas or oil by causing it to pass over, or come in contact with, a system of heat radiating material, arranged to absorb, conduct, and radiate the heat from the same. The smoke and vitiated air are conveyed away through a chimney, and the pure heated air is conducted into apartments, or radiated into the various compartments of a cooking range. Thus the outer casing and inner chamber are combined with heat-radiating contrivances, and the stove and burners are combined with radiating portions of the stove, so as to get a downward and outward radiation of heat.

During the year which is closing around us the patents relating to the mining, metallurgical, and mineral arts have been very numerous. Those applied for in 1865 are computed in the "Inventors' Almanack" (for 1867) as 292. Let us trust that this sign of prosperity and progress in arts of so much importance to the welfare of the country may continue to mark the year the coming of which we hopefully await.

HOT-BLAST STOVES.—An ingenious mode of utilising the waste gases from blast-furnaces has been invented by Mr. JOHN PLAYER, of Norton, Stockton-on-Tees, which consists essentially of drawing them into a hot-blast stove by means of a steam-jet, and then consuming them. He claims the construction and arrangement of a hot-blast stove, which can be used with coal or solid fuel. The improvement consists in the use of three distinct chambers suitably disposed. When the furnace gases are to be utilised, he uses a steam-jet to draw them down from the top of a blast-furnace, and forces them into a stove for heating the blast. The above described arrangement of stove appears exclusively designed for heating blast for blast-furnaces with open tops. A similar arrangement of stove for closed-top furnaces was some time since patented by Mr. Player, a large number of which are at present in use. A scientific gentleman lately visited the Cleveland district, with the view of ascertaining the most recent improvements adopted at the various ironworks, and found the general aim was to use blast more highly heated than has hitherto been done in other iron-making districts—1000° to 1200° is now frequently used. With this temperature of blast and higher furnaces a saving of upwards of 30 per cent. of fuel has been effected within about two years at some of the ironworks in Cleveland. The kind of stoves used are the old horse-shoe pipe, Staffordshire; the Scotch pistol-pipe, the long, flat double pipe (Gauntlett's patent), the vertical double tube (Player's patent), and two of Cowper's regenerative stoves. In the first, second, and third kind of stoves the waste gases are burnt in contact with the pipes, a sufficient draft of atmospheric air being admitted to induce a bright red heat, which causes the destruction of the pipes, on an average, in two years; this causes in many works a constant repair of stoves, and incessant outlay. In Player's patent stove this defect is remedied, as the gas is consumed first in a separate chamber from that containing the pipes to be heated; sufficient air is there allowed to cause an intense heat; the heated fumes are allowed to escape through narrow slots into an air-tight chamber (with a valve, or damper, on top), containing a series of vertical 8-in. pipes, through which the blast to be heated travels. It is found that the highly-heated fumes will not again flame without a fresh supply of air, consequently the cast-iron pipes remain uninjured in a red-hot atmosphere without flame impinging on them; the temperature by this means is so steady and regular that the blast is treated without difficulty to 1100° to 1200°. Another improvement lately adopted is, that whereas a few years ago 2000 square feet of heating surface was given per furnace, now 500 to 600 square feet are advantageously used.

MINERAL TRAFFIC ON RAILWAYS.—It appears that in 1865 the Caledonian Railway carried 5,226,275 tons of coal and minerals, as compared with 5,125,757 tons in 1864; the Great Eastern 885,400 tons, against 776,818 tons in 1864; the Great Northern 2,254,218 tons, against 1,934,662 tons in 1864; the Great Western 4,832,415 tons, against 4,574,829 tons in 1864; the Lancashire and Yorkshire 3,888,487 tons, as compared with 3,507,889 tons in 1864; the London and North-Western 9,039,650 tons, as compared with 8,095,164 tons in 1864; the London and South-Western 481,282 tons, as compared with 440,500 tons in 1864; the London, Brighton, and South Coast 511,194 tons, as compared with 399,840 tons in 1864; the Manchester, Sheffield, and Lincolnshire 2,146,514 tons, as compared with 1,769,414 tons in 1864; the Midland 5,352,299 tons, as compared with 5,357,004 tons in 1864; the North-Eastern 15,309,991 tons, as compared with 15,398,276 tons in 1864; and the South-Eastern 208,361 tons, as compared with 198,132 tons in 1864. The receipts for last year from coal and mineral traffic on the twelve systems indicated were:—Caledonian, 429,097; Great Eastern, 134,878; Great Northern, 429,817; Great Western, 501,537; Lancashire and Yorkshire, 189,186; London and North-Western, 891,818; London and South-Western, 44,390; London, Brighton, and South Coast, 48,584; Manchester, Sheffield, and Lincolnshire, 164,596; Midland, 593,841; North-Eastern, 1,300,892; and South-Eastern, 31,865.

AMERICAN ANTHRACITE COAL.—The increase in the deliveries of anthracite coal from the various producing districts in Pennsylvania has been very rapid. In 1820 these deliveries were only 365 tons, but in 1830 the total had been carried to 174,734 tons, and in 1840 to 841,584 tons. In the next ten years the increase was still more rapid, a total of 3,177,537 tons having been attained in 1850. This progress was as nothing, however, to that made during the last 15 years. Thus, in 1851 the production went at a bound to 4,374,716 tons. In 1852 it further increased to 4,823,432 tons, and in 1853 to 5,016,464 tons. In 1854 it again went at a bound to 6,469,379 tons, and in 1855 it maintained its ground, the total for that year having been 6,490,296 tons. In 1856 there was an advance to 6,719,319 tons, but 1857 was a comparatively dull year, the total falling to 6,412,639 tons. In 1858 there was a recovery to 6,670,745 tons. In 1859 there was once more a bound to 7,672,059 tons, and 1860 witnessed a further advance to 8,151,567 tons. The next year was one of depression, and the total sunk to 7,691,387 tons. In 1862 it remained nearly stationary, amounting to 7,731,602 tons. In 1863 there was a very great advance, an aggregate of 9,497,692 tons being attained, while in 1864 the figures were carried to 10,035,249 tons. Last year the total experienced very little variation, remaining at 10,032,647 tons.

COAL IN NOVA SCOTIA.—Mr. Rutherford, the Inspector of Mines, has lately examined the seam recently discovered at New Glasgow, and gives the following as its dimensions:—

Coal.....	10 ft. 4 in.
Fire-clay.....	10
Hard sandstone.....	3
Fire-clay and hard ironstone bands.....	3
Dark shale.....	3
Coal.....	9
Shale and coal (mixed).....	2
Fire-clay.....	7
Ironstone band.....	0
Coal.....	2
Fire-clay.....	10
Coal.....	10

This gives a total thickness of seam, from the roof of the upper to the floor of the lower bench of coal, of 77 ft. 6 in., and a total thickness of coal of 37 ft. 6 in. The coal varies in quality, but two-thirds, he considers, may be counted on as good merchantable coal. Mr. Rutherford considers it and the Main Seam of the Abitibi Mines to be identical, and Dr. Honeyman, the Provincial Geologist, who has also examined the seam, has come to the same conclusion.

COLLIERIES AND COLLIERIES.—A series of papers bearing this title have recently appeared in the *Mining Journal* under the signature of "H.," and as the fact of their publication having extended over many weeks may have prevented the arguments adduced from being appreciated to the extent they deserved, the author, Mr. W. B. Higgins, has carefully revised the whole series,

which is now printed in the convenient form of a pamphlet, entitled "Collieries and Colliers: or, how to determine the Quantity of Coal in the British Coal Fields," which will be forwarded from the *Mining Journal* Office, on receipt of 13 stamps.

FOREIGN MINING AND METALLURGY.

It is curious to observe the comparative imports and exports of coal into and from Belgium this year and 1865. It would seem that the coal extraction of Belgium is insufficient to satisfy the demand which it has to sustain, and which Prussian competition seems disposed to share. The official statistics inform us, in fact, that during the first ten months of this year the exports of coal from Belgium amounted to 3,242,000 tons, while during the corresponding period of 1865 the total was only 2,818,000 tons. There was, then, an augmentation of 424,000 tons in favour of 1866, whilst the advance made in the first ten months of 1865 over the corresponding period of 1864 was only 243,000 tons. The importation of coal into Belgium from Prussia only commenced in November, so that it is impossible at present to indicate its importance. Nevertheless, it may be remarked that during October Belgium received 23,500 tons of foreign coal, while the imports in the corresponding month of 1865 only amounted to 5800 tons. The Belgian coal-workers are endeavouring to develop their extraction, so as to satisfy the demand and deal with foreign competition; but it is feared that prices will not fall, as, under the circumstances, an endeavour will be made to maintain wages, while difficulties of extraction will not diminish. Meanwhile, it is expected that Prussian producers will be able to obtain considerable reductions of transports, and to develop their extraction by mechanical means, which the thickness of the beds they work will enable them to employ. The multiplicity of means of transport, and the low terms on which they are effected, enable it to be said that within a certain zone the price of coal cannot exceed a given maximum; the future will show whether Belgian extractors have not exceeded this limit. The Belgian coal market remains, however, for the present in the same state as during preceding weeks, and prices continue to present a firmness which leads to the inference that a further advance will probably be attempted in the Charleroi basin. In the basin of the Couchant de Mons, although the mildness of the weather has caused some orders to be withdrawn, the demand still sensibly exceeds the production, and deliveries continue to be very active, as well by water as by railway. The exports of pig-iron from Belgium in the first ten months of this year amounted to 13,000 tons, while in the corresponding period of 1865 they were only 8000 tons. There was, then, an augmentation of 5000 tons in the exports of 1866 over the corresponding period of 1865, but when the comparison is extended to the first ten months of 1864 there is a decline in the exports of more than 10,000 tons. This diminution arises especially in the deliveries made of pig to England and France. Thus, the deliveries to France in the first ten months of 1864 were 16,200 tons, while in the first ten months of 1865 they were only 8600 tons. England received during this period of 1864 a total of 6800 tons, while in 1865 she received only 180 tons. The imports of pig into Belgium present an important increase, not only over the first ten months of the past year, but also over those of 1864. In fact, during the first ten months of 1864 the importations of pig amounted to 9700 tons, during the same period of 1865 to 17,500 tons, and during the same period of 1866 to 27,000 tons. England sustained the most prominent part in this augmentation in the imports of pig into Belgium. The exports of rails from Belgium during the first ten months of this year present rather a sensible diminution as compared with the corresponding period of 1864, during which 68,300 tons were sent abroad, while in this year only 60,600 tons were exported, of which Russia absorbed more than half (31,900 tons); Spain and Portugal which took 35,000 tons of Belgian rails in the first ten months of 1864, only absorbed 2000 tons during the same period of this year. The exports of plates also present a diminution, of no great importance, this year, having amounted to 14,000 tons, while they had been 15,500 tons during the corresponding period of 1864. The diminution observable arose in part in the deliveries made to the Low Countries, which only received 2200 tons during the first ten months of this year, as compared with 3200 tons during the first ten months of 1864. Maritime constructions have not fallen off in the Low Countries, but Westphalian plates are preferred, England, which had received, in 1864, 2300 tons, only figures for 14 tons in the deliveries of this year. The deliveries made to France present, on the contrary, a rather sensible augmentation in favour of the first ten months of 1866, during which they were 8900 tons, as compared with 7400 tons in the corresponding period of 1864. The exports of manufactured iron generally in Belgium—rails, plates, rolled iron, &c.—amounted to 136,600 tons in the first ten months of 1866, showing a diminution of 2300 tons when compared with the exports for the corresponding period of 1864. The state of Belgian metallurgy has not varied during the last few days. Mention is made of a rather important contract for rails for Russia, and some orders for merchants' iron have also been received for England, but not to any great extent. The first dividend for 1866 of the Belgian Society of Capitalists, united with a mutual industrial object, is 12 per share, and will be payable on Jan. 2. The Austro-Belgian Metallurgical Company will pay, Jan. 2, a dividend of 12s. per share for the exercise of 1865-6. The Hornu and Company will pay, Jan. 2, interest for 1866 at the rate of 2 per cent. The Charleroi Collieries Company will pay, Jan. 2, interest on the shares for the exercise of 1866, or 12 per share. The North of Charleroi Collieries Company, and the Bonne-Espérance and Batterie Collieries Company will make similar distributions on the same day. The Sars-Loupchamp and Bouvy Collieries Company will pay, Jan. 2, interest for the exercise of 1866, or 22 per share. The Bousu-Sainte-Croix-Sainte-Claire Collieries Company will pay, Jan. 2, 12s. per share for the exercise 1866. The Ougrée Collieries and Blast-Furnaces Company will pay, Jan. 2, a dividend for the exercise 1865-6, or 12s. per share. The Thy-le-Château Blast-Furnaces Company will pay, Jan. 2, interest for the year 1866. The Luxembourg and Sarrebruck Mines Company will pay, Jan. 2, a dividend for the exercise 1865-6, or 42 per share. Meetings are announced as follows:—Belgian Central Public Works and Railway Plant Company, Dec. 28, at Brussels; Jemeppe-Auvclats Collieries Company, Dec. 29, at Marchienne-au-Pont; Mulheim-sur-Ruhr Mines Company, Jan. 29, at Mulheim.

Little business has been done in pig of late in the Meurthe district (France), and the stock of pig is sensibly augmenting. White pig is quoted freely at 22 1/2 1/2s. 2d. per ton; speckled pig at 37 3/4 3/4d.; No. 3 pig for casting at 37 1/2 1/2s. 2d.; and No. 4, ditto, 37 1/2 1/2s. 2d. per ton. In the Moselle, the price of iron is rather firmly maintained, with the exception of a slight reduction, which has been decided on by some works. At Metz first-class merchants' iron has been quoted at 82 1/2s. per ton, with a scale of 88s. per ton class; first-class sheets have made 92 1/2s. per ton, with a scale of 16s. for following classes. The Fives-Lille Company will pay, Jan. 2, the half-yearly interest accruing on its obligations. Meetings are announced as follows:—Imphy St. Saurin Steelworks Company, Dec. 28, at Paris; Ahun Collieries Company, Dec. 28, at Paris; Fives-Lille Blast-Furnaces and Forges Company (Meurthe), Dec. 29, at Paris; Alais Forges and Foundries Company, Jan. 10, at Paris; and Denain Blast-Furnaces and Forges Company, Jan. 25, at Paris.

The coal basin of the Ruhr, the production of which has increased so rapidly of late, was worked in 1864 by 224 companies, and in 1865 by 234. A very small number of these possess two pits of extraction, but each feels more and more the want of such a system. The number of workpeople employed in the collieries of the basin was, in 1864, 27,800, supporting 61,724 women and children; and, in 1865, 42,306, supporting 97,293 women and children. The production was 215 tons in 1864, and nearly 217 tons in 1865. The wages paid per man are about 2s. 6d. per turn of eight hours. The greatest production was attained in 1864 by the Victoria-Mathias Mine of Essen, belonging to Herr Stinnes. This mine extracted in 1864, by two pits, 280,182 tons of coal; in 1865, it still remained in the first rank with a production of 288,168 tons. In 1865, 87 mines extracted more than 30,000 tons each. The average selling price of coal in the basin was, in 1865, 9s. per ton; in 1864, 5s. 1d. per ton; in 1863, 4s. 10d. per ton; in 1862, 4s. 11d. per ton, and in 1861, 5s. 6d. per ton. The price of coal has, therefore, been steadily increasing, and last-mentioned price will be exceeded. The principal outlets for the coal and coke of the Ruhr have been the West of Germany and Holland; since then they have penetrated to the centre of Belgium. The coal of England, Saxony (Zwickau), Silesia, and the Saar compete with them in Germany; but in proportion as the means of transport are created or improved these coals give place to Ruhr combustible, which is of better quality. The local railway companies have not increased their plant in proportion as the production of the Ruhr basin has increased—a fact which has, of course, impeded deliveries. New lines are, however, about to be established, and will remedy this state of things.

The price of Chilean copper has been well supported at Havre. Disposable has closed firm at 78s., while 78 1/2 1/2s. has been obtained for deliveries to be made in the second fortnight of January. The Antwerp market has received a lot of 6 tons of American, Minnesota mark, which has remained unsold hitherto, although offered at 116s. per ton. Quotations have slightly hardened at Paris, although the demand remains moderate; English copper is quoted at 84s., while Chilean has remained sustained at 78s. per ton. A Hamburg letter says:—"For a long time past our market has remained inactive, but at present the situation displays a tendency to improve. Some orders have reached us this week, but it has not been practicable to execute them, because of the too low limits assigned, and because holders, rather than make new concessions, prefer to withdraw from the market; last week's prices are very firmly maintained." On the various other German markets opinion remains favourable to the article, but there has been no change in quotations. A revival in tin has appeared on the Dutch market; the demand, without having acquired a large extension, is tolerably well sustained, and various lots have been disposed of at advanced rates. At Rotterdam 200 blocks of Banca have made 48 1/2 1/2s.; 200 blocks ditto, 48 1/2 1/2s. and 500 blocks ditto, 48 1/2 1/2s.; while the last advances represented the market as closing firm at 49 1/2 1/2s. Various lots have also changed hands at Amsterdam at 48 1/2 1/2s. to 48 3/4 1/2s. The Paris tin market has been firm at former rates. There has been a sustained demand for the article, and prices have risen at Berlin and Cologne. At Hamburg the tendency has been good, and full prices have been paid for lots of secondary importance. Advances from Breslau speak favourably of the tone prevailing with regard to zinc on that market; it is nearly impossible to obtain disposable in quantities exceeding 1000 to 2000 centners, the majority of the works having engaged their December, and, in part, also their January production. The demand for zinc has been very animated at Hamburg. At Paris, rough Silesian has been easily sustained at 28 1/2 1/2s., and qualities from other sources at 22 1/2 1/2s. per ton.

THE INSPECTION OF MINES IN BELGIUM.—Messrs. Creed and Williams have another letter in the *Times* on the subject of foreign competition with British manufactures. The following account of the mode in which the inspection of mines is conducted in Belgium will be read with interest at the present moment:—"In Belgium the Government never assumes that different classes engaged in production are antagonistic in feeling, or can have opposing or diverging interests. It never proceeds on such an assumption. It never meddles with either the one class or the other. It co-operates with both, and both co-operate with the Government. We were very much struck with the unmistakable evidences which we saw of the existence of this most desirable state of relations between the three great parties concerned in the development of the resources of the country—between the Government, the capitalist, and the working man. Nor is this condition of things in any degree the result of any laxity on the part of the Government or its officers. On the contrary, the inspection of the mines in Belgium is much more real, much more effective, and much more

constant than in England. The Belgian Inspector is required to go down each mine four times a year. He does, in point of practice, go down much oftener, and we believe we are safe in saying that he devotes at least two days a week to personal inspection below the surface in his district. The inspection of the English Inspector, on the other hand, is generally indirect. Remaining on the surface, the workmen submit to him any grievances to which they may consider themselves subjected. In fact, they regard him chiefly as a sort of peripatetic opportunity for the reception of complaints; and, in addition to this, the law permits him to be used as the resort of a class of common informers, who make a remunerative trade of travelling the district seeking materials for complaints and prosecutions against mineowners. This mode of conducting inspection produces just the results that might be anticipated. The Inspector carries through his district not peace, but a sword. He creates not co-operation, but antagonism, and teaches all parties concerned to regard him not so much as an aid of enterprise controlling those elements of wrong and mischief which are apt to disfigure the most useful undertakings, but as an arbiter between parties whom his attitude has imbued with suspicion of each other. We will not say that the condition is universal, but there is a very great deal of inspection of this complexion throughout England. We do not blame the Inspectors especially. The fault is not so much theirs as the fault of the declamatory sections of society and of Parliament, who use the working man as a political instrument, and whose declared doctrine is that the country is held by two distinct nations—the employed and the employers; from these sections Inspectors, who have to lay nominally before the Crown, but really before Parliament, the reports affecting the manual labour class, are apt, not unnaturally, to take in some sort their cue. The spirit of the Belgian Inspector's inspection is different, because the spirit of his public and his Government is different. The object of Government intervention in Belgium is to give an aiding control to the whole body corporate engaged in developing the national resources, not to divide it into classes warring against each other; to remove all impediments to the progressive development of the resources of the country; and to secure to everyone, whether master or man, freedom of action, as far as it is compatible with justice and real liberty. When the Belgian Government speaks of 'the people,' it means not a portion, but the whole of the population. The servants of the State understand this, and their administration of their functions is in accordance with the spirit which they discern in their employers; while the King himself, we found, was universally looked up to, not merely as king, but as the best man of business provided for his people by the constitution."

REPORT FROM SCOTLAND.

GLASGOW, DEC. 26.—In another column will be found a detailed statement of the Scotch Pig-Iron Trade for the year about to close. Since the last report little business has been done, and a decline of 6d. per ton has had to be submitted to, without leading to much business. The closing exports of the year were 13,862 tons, against 11,900 in the same week of previous year. During the week Messrs. Bairds have lighted a new furnace at Lugar, which is enlivening the district with its nightly gleam. There has been no business done to-day, but buyers will not give more than 54s. 3d. cash, and 54s. 6d. a month; sellers require 15d. a ton more. Malleable iron has been very unremunerative during the four last months of the year, and the quotations now are—Bars, 71 1/2 1/2s. to 81 1/2 1/2s.; plates, 81 1/2 1/2s.; rails, 61 1/2 1/2s. to 71 1/2 1/2s. Cast-iron is not in great demand, although there are a few contracts for large pipes in the market, and three iron barges. Cast-iron pipes are from 51 1/2 1/2s. to 61 1/2 1/2s.; railway chairs, 31 1/2 1/2s. to 41 1/2 1/2s. A notice of a reduction of 10 per cent. in the wages of the workers at the malleable ironworks was given on Saturday last. Coals have a tendency to decline, as, with the ironmasters' supply coming into the market on account of the extinction of a large number of the smelting-furnaces, there is greater competition. The shipments are also becoming more limited, 22,230 tons being shipped in the week just ended, against 22,685 tons in the same week of 1865. The colliers' wages have been in several instances reduced 6d. per day, and the secretary of the Miners' Association is said to be advising the men to accept of the reduction, which for once is a safe advice to those who look up to him for direction. The Balgairie coal field, near Dysart, in Fifeshire, is reported to be on fire, but attempts are being made to extinguish it.

REPORT FROM NORTHUMBERLAND AND DURHAM.

DEC. 27.—There is nothing new to report in the state of the Coal Trade here; the weather continues extremely mild for the season, and this, of course, has some effect upon the demand for house coals; the price of this class of coal has, therefore, fallen lately in most of the markets, including London, the most important of all. Most of the collieries are well employed, and whether the season proves throughout mild as it is at present, or becomes severe, the revival of the iron trade in the spring can hardly fail to secure a good year's work for 1867, so far as the coal trade is concerned. It is remarkable that the practice of smoking in the mines appears to be spreading in these districts. Two cases have occurred lately at the extensive colliery at Ryhope, where the man detected was very properly punished; and on Monday John Turnbull was charged before the Tynemouth magistrates with smoking in the Backworth C Pit, contrary to the rules of the colliery, and was convicted and sentenced to six weeks' imprisonment in Morpeth Jail. It is certainly a sad thing for a man to be incarcerated for six weeks in jail for such a foolish act as smoking in a coal mine, but few indeed will be inclined to think the punishment too severe, when it is considered that the lives of many of the men working in the pit might have been endangered by such a practice.

The Iron Trade has not recovered the shock caused by the late disastrous strikes; there is no appearance whatever of the old spirit in the trade as yet, and work goes on at a slow, dull pace. The work of reconstruction, indeed, is still going on, and hence we hear of reductions in many branches still being made—that is, in the rate of wages. The owners, it is plain, are determined, whatever amount of business is done in future, to have a little more control over their works than they had previous to the strike; they are, therefore, exceedingly cautious, and do not take orders without due discrimination. It is expected that after the holidays are over most of the works will be getting into shape, and the orders will be more anxiously looked for. At Messrs. Abbey's considerable orders are on hand for pipes, but at most of the other works on the Tyne there is little work on hand, and the foundries are remarkably dull. The chemical works continue pretty brisk, but all trades, with the exception of this and the coal trade, are totally devoid of spirit.

REPORT FROM DERBYSHIRE AND YORKSHIRE.

DEC. 27.—The dispute between the proprietors of the Staveley Collieries and their men is about to culminate in the withdrawal of all Society men from the pits. Notices were given out on Wednesday night to them, which will be served on the masters' agents on Saturday next. Whether this step is a wise one, considering that the South Yorkshire Miners' Association, from whom the principal support has been promised, have recently announced that they are unable to meet their pecuniary obligations, so far as the widows and children of the men who have lost their lives at the Oaks Colliery are concerned, remains to be seen. Mr. Markham, the managing partner, has succeeded in getting upwards of 1000 men to work, and the Non-Union Society which has been established is thinning the ranks of the Unionists; and, when the entire body is out, there is every reason to believe that the number of seceders will be largely increased. It is to be regretted that the war has not been carried on without violence, and that of a very serious character. No later than Monday the Non-Unionists were set upon by some 30 men belonging to the Union, and one of them thrown no less than three times into the canal. Notwithstanding those attempts to drown the poor fellow, he ultimately escaped in a very exhausted state. No efforts, however, will be spared to bring the perpetrators of the dastardly outrage to justice, as Mr. Markham is determined to give the men every protection possible, and it is to be hoped the miscreants will, one and all, be discovered. All the collieries in the district, where the men are not out on strike, are at work, the trade being very active, and a large tonnage is being forwarded by the Midland to the south. There is a moderate business being done at the ironworks, and Derbyshire is as well off in that respect as almost any other part of the country. The Sheffield trade continues quiet, the makers of steel being, perhaps, better off than almost any other branch. The Christmas holidays, however, render the week a quiet one, but, there being no pressure for orders, manufacturers are not at all inconvenienced by the stoppage of work.

The present depressed state of the Iron Trade has led most of the makers in South Yorkshire to give notice to their men that a reduction of 10 per cent. will have to be submitted to by all hands if work is to be continued. Whether the men will quietly submit is questionable, but one thing is plain—that with the present rate of wages manufacturers are unable to compete with Belgian makers, who are now taking some very heavy contracts for bars and rails, which under other circumstances might have found their way into this country. At the present time iron can be purchased at Liège and other places, and brought to any part of England, at a less price than our makers can afford to sell it for. The cause of this state of things is no secret, as the disputes and strikes, little by little, have brought the trade to the condition in which it now is, and likely to remain. Amongst other makers, the Messrs. Dawes, of the Milton and Elecar Ironworks, have given their men notice in terms as above stated. The firm are generally anxious to reduce wages, being in a position, from the very favourable contract made with the late Earl Fitzwilliam for coal and ironstone, to pay as high as any firm probably in the kingdom, and have kept their men fully going when other works were standing. Yet they have been obliged by the force of circumstances to go with the stream, and try to divert the trade back again to this country, from which it has been forced in a great measure by the high prices demanded for labour. At some of the works there is a moderate business in sheets, hoops, and plates, while bars and rails are remarkably quiet. Just now there is not so much being done in armour-plates, but the new year will, in all probability, find that important branch of our manufacture brisker than it has been. At the works on the Lincolnshire side of the Trent the furnaces in blast are kept fully going, there evidently being no lack of orders. Makers of Bessemer steel are also pretty busy, the extensive works at Penistone, belonging to Messrs. Cammell and Co. (Limited) turning out a large quantity of the plain and manufactured material, in cranks, axles, tyres, and other articles suitable for marine and other engines. Yet, notwithstanding the large business done—and one that is said to be lucrative—the shares of the company are quoted as low as from 27 to 29 1/2 1/2s.; and John Brown and Co. (Limited) are also in a similar position, these shares being put on the list at 26 1/2 1/2s. These facts show that the trade is in anything but a healthy state. Amongst those who are best supplied with orders are the machinists and casters, many of the former being engaged in colliery work.

The past week has been a very quiet one indeed at the principal collieries in the South Yorkshire district. What with the excitement occasioned by the terrible catastrophe at the Oaks Colliery, and the Christmas holidays, very little business has been done, and most of the pit hills display a clear front, the coal having been sent off almost as fast as raised. There are plenty of orders on hand for Silestone and Barnsley coal for the home markets, household qua-

lities in particular being in active request. To London there is a good trade, as dealers there have not yet been able to stock the quantity usual at this time of the year although the weather has not been such as to tax their power of supply. Coalmasters continue to send off considerable quantities of hard or steam coal to Hull and Grimsby for exportation to Northern ports, which this year appear to have kept open much longer than usual, having evidently had a share of the very mild weather which has favoured other parts of Europe. At the Oaks Colliery to-day men are busily engaged in putting a scaffolding down No. 2 shaft, consisting of two layers of oak, 12 and 8 in. thick, and a 10-in. pipe for the purpose of conveying the gas to the top. Should the experiment prove successful, it is probable that the pit will be opened much earlier than was at first anticipated. The open shaft at present emits a little smoke, mixed with gas, but it comes out spasmodically, as if its efforts to force itself upwards were expiring. Every precaution is being taken to prevent accidents, as a portion of the gas on reaching the top may escape from the cistern, and, of course, will be easily ignited. The excitement is fast dying away, and with the exception of those who have relatives in the colliery, but few persons are to be seen on the grounds. However, a different state of things will be found when the pits are un-ealed, as many of the relatives of those entombed will be anxious to go down and assist in recovering the bodies. Amongst the very prevalent rumours during the week one is to the effect that a party of Frenchmen, provided with suitable apparatus, were prepared to descend the pit and recover the bodies. Some such offer was doubtless made, but it is needless to say could not be accepted, as explosions pay a little respect to Frenchmen as to Englishmen.

Mr. C. Morton, the Government Inspector of Mines in Yorkshire, yesterday resigned that situation. Mr. Morton had held the post for about 14 years, but for some considerable time past has suffered from ill-health, and it is supposed that the excitement caused by the late catastrophe has caused a relapse, and so led to his resignation. He was a thoroughly practical man, and remarkably acute in the elucidation of evidence.

Three colliers (one a boy) have been convicted and fined for disobeying the lawful commands of the underwriter in the Birchall Colliery, Hasland, belonging to Messrs. A. and E. Barnes.

REPORT FROM NORTH AND SOUTH STAFFORDSHIRE.

DEC. 27.—The Preliminary Meeting of the Ironmasters' Association of South Staffordshire and East Worcestershire has been held to-day at Birmingham. There was a large attendance, and the discussion lasted for nearly three hours, and terminated in an adjournment to this day week. The reports as to the South Staffordshire Iron Trade have for some time, almost without exception, spoken of a reduction of prices by 1½ per ton, and of wages to the extent of 10 per cent., as certain, but in this letter it has been stated that such a result was by no means so clear as was generally represented. A reduction of wages cannot be determined by a mere majority, and it was known that some of the leading ironmasters hesitated as to the course which should be taken. However readily the men might have submitted to a reduction of wages if the masters had been unanimous, it will be very different if they should be divided. As repeatedly stated, it is mainly a question of wages. The trade price is scarcely obtained by any, and the margin is as great as it can possibly be with wages at their present amount. The meetings are private, but it is understood that some of the leading masters were opposed to any reduction, that they consented to take 10s. per ton off iron, and 5 per cent. off wages, that there was a majority of nineteen for a reduction of 1½ in the price of iron, and 10 per cent. in wages, to thirteen against, with five neutral: but that on an appeal from the minority the decision was adjourned for a week, as is understood, with a view to ascertain whether some members of the trade not represented at the meeting would concur in the course supported by the majority.

The result of the meeting can hardly be considered satisfactory by any one, and many will attribute it to the recent change in the constitution of the association. Formerly it was a close oligarchy, confined to the leading members of the trade, with a Chairman more or less despotic: but since the death of Mr. Philip Williams it has been arranged that panel Chairmen should preside each for a year in succession, and the association is open to all who subscribe. The first occasion for real action certainly does not tend to the credit of "the constitutional system."

The result of a careful examination of the colliery at Talke, which was the scene of the late dreadful accident, is that 91 lives have been lost, including those who were not out alive and who have since died. It is quite evident that all the money that can be raised will be required to rescue from poverty the survivors of the victims of this accident, however liberally the country may subscribe.

At the Wolverhampton Police Court, on Friday, before Mr. I. Spooner, stipendiary magistrate, several informations were preferred under the Mines' Inspection Act, at the instance of Mr. J. P. Baker, Her Majesty's Inspector of Mines. In a case against Mr. F. Lane, of Rotherham, for neglecting to fence shafts, it appeared that it was the fault of the lessees, and that the agents of the owner had at once caused the shafts to be fenced upon hearing of the neglect. A fine of 10s. was inflicted in one case, and of 5s. in another. In a case against the same defendant for not fencing the colliery, which was submitted mainly to obtain the opinion of Mr. Spooner, he decided that proprietors were not required to fence their collieries, excepting, however, open workings, where there might be danger. In other cases Mr. B. Whitehouse was fined 5s. in two informations for leaving shafts unfenced at Hill Top; and Mr. John Jones 9s. 10s. in each of two similar cases at Moseley Hole. In both these cases it was stated that the fences were stolen, as is very common. On Wednesday Mr. Spooner heard a case in which Henry Riley was charged with neglecting to provide proper signals between the top and the bottom of the shaft, with neglecting to exhibit the special rules, and with not providing a tackle-skip. The informations were laid by a man named Hall, a stock-taker, and it was remarked by the magistrate that he was not entitled to a farthing of the penalty. The defence was that the pit was only 15 yards deep, and that the men preferred a bank to a tackle-skip. Mr. Spooner said it was necessary to protect the men against themselves, and fined the defendant 2s. in two of the cases.

The New House Mining Company (Limited) is the title of a company formed to work ironstone on an estate in the parish of Ipswich, near the Freginal station of the North Staffordshire Railway. A very valuable hydrate iron ore is found in the district, and reports by Mr. W. H. Murray, F.R.S., and Mr. W. S. Cope, mineral surveyor of Colliery, state that the valuable stratum exists over the whole estate, bounded by the vertical walls of four great faults. The promoters suggest the erection of two blast-furnaces as part of the scheme. The capital is 50,000l. in 100 shares, of which 2200 have been allotted. The provisional directors include men of special practical and local knowledge.

REPORT FROM MONMOUTH AND SOUTH WALES.

DEC. 27.—The Iron Trade of South Wales continues in the same languid state by which it has been characterised for such a lengthened period, and curtailment of operations at most of the works is being further carried out. During the past fortnight the question of placing the list prices on a more consonant footing with the quotations accepted has engaged the attention of both makers and buyers, and the general opinion is that such a step should be taken. In order to show the anomaly of the present state of things, it is only necessary to state that at the present time makers are willing to take contracts at from 10s. to 15s., and even in some instances 12s. per ton less than was accepted this time twelve months. Formerly railway iron was 7s. 10d. at the works, whereas now it can be obtained at 6s. With respect to the reduction in the scale of wages, it may be said that the men see the necessity of it, and they will accept the alteration as unavoidable. It is to be regretted that, owing to a great measure to the depression in the home market, one of the largest mills in Glamorganshire has been stopped. Great uncertainty exists as to the time when a change will take place for the better, but there is a general hopefulness as to the future.

In proposing the toast of "The Iron Trade," at the dinner of the South Wales Institute of Engineers, on Thursday, Mr. Adams, in reference to the depressed state of the trade, said he had every confidence in the future, and he firmly believed that the demand for manufactured iron would become so great as to fully keep alive the resources of both home and foreign ironmasters. A great deal had been said of the competition of the Belgian and French makers, but his firm opinion was that the Welsh makers would be able, as they had hitherto, to hold their own against all comers. Mr. Roper, of the Cwmbran Works, in responding to the toast, regretted that further advances had not been made in the science of chemistry as applied to the manufacture of iron. As yet they knew but very little in this respect. They were overwhelmed with analyses, and yet they knew scarcely anything of spectrum analysis. If this branch were studied more closely he believed it would possibly throw some light upon the elements which constituted their pig-iron, and then it could be shown why one class of pig-iron produced different results from another class.

In the transaction of business great caution is exercised, and the late seizures made upon certain of the Welsh railways, following so quickly upon the exposures made with regard to other home lines, have seriously added to the want of confidence which at present exists. The orders that have come to hand on home account have been of very small amount; and the quantity of iron cleared out during the week for the foreign markets shows a considerable falling off. This is not more than was expected, as most of the American contracts have been completed and delivered. Still orders from the United States keep dropping in, and, according to New York advices, a tolerably fair amount of business may be anticipated, provided "the restrictive policy" is not proceeded with further. Reports from Russia speak of the large requirements of the market in that quarter, and confident hopes are entertained that a large trade will be done with Northern Europe during the ensuing year. The spring delivery orders from British North America are gradually coming in, and the future of South America is more promising. The same may be said of India and Australia, whilst trade with the continental markets is chiefly confined to Italy and Spain. The pig-iron market is quiet, and no change has taken place in quotations. The demand for flat-plates is very moderate, and prices tend in favour of buyers. Charcoal is quoted at 28s. 6d. to 29s. 6d. per box, delivered at Liverpool. The steam coal proprietors have enjoyed a long season of prosperity, and orders still keep coming in, and their energies are taxed to the utmost in meeting the requirements of buyers. There is, however, a scarcity of shipping for the foreign trade, and at several of the collieries there is a scarcity of skilled labour. The railway resources are heavily taxed in supplying the requirements of the home markets, and this portion of the trade is being rapidly developed.

In house qualities an average business is doing, but the late stormy weather has greatly interfered with coasting shipments.

During Sunday night a sad accident happened to three men in the Abercromby Pit, the property of Mr. Davies, by an explosion of fire-damp. On Monday morning they were found all three dead, and sadly burned. A horse was also found burnt to death. No account can at present be given as to the cause of the explosion.

The shareholders in the Tillery Company (Limited), the Cwmhelan Gold Mining Company (Limited), and the Tyddingwells Silver, Lead, and Gold Mining Company (Limited) have determined to wind-up.

As a proof of the prosperous state of the coal trade in the Rhondda Valley, it may be mentioned that Messrs. Davies and Co., the proprietors of a couple of extensive collieries in that district, have advertised for tenders for the erection of 300 cottages for their workpeople.

It is stated that the Forth Works, which are situated at Walnut-tree Bridge, near Cardiff, will be started early in January. They are of an extensive character, and will afford employment to a large number of hands.

Messrs. Frothero, colliery proprietors, near Maesycwmwr, are adopting measures for sinking to the lower seams.

The Bute Anchor and Chain Cable Testing Works, at Cardiff, have been purchased by the trustees of the Marquis of Bute. They were erected by Messrs. Brown, Lennox, and Co., of the Newbridge Chain Works, at a cost of 4000l., but in consequence of the Board of Trade refusing to grant a testing licence to manufacturers of their own anchors and cables, the Bute trustees bought the works, thus conferring a great benefit upon the shipping and mercantile interest of Cardiff. The machinery is similar to that at Liverpool Docks, and is capable of testing up to 300 tons. The trustees intend charging 20 per cent. less under the amounts which the Board of Trade have authorised in their published scale.

There is no doubt now but that the Newport Alexandra Docks will be shortly commenced, as at a public dinner, held last week, Lord Tredegar, the Chairman of the company, stated that the directors had had a meeting a day or two previously, and that as all difficulties had been removed, it was determined to commence operations so soon as favourable weather set in.

SOUTH WALES INSTITUTE OF ENGINEERS.

The general meeting of members was held at the Westgate Hotel, Newport, on Dec. 20.—Mr. G. MARTIN (President) in the chair.

Among the members present were—Messrs. Lionel Brough (one of Her Majesty's Inspectors of Mines), A. Bassett, T. Dyne Steele, G. Brown, Harrison, Huzzey, Maynard, Adams, Davies, Edwards, Beddington, C. Kirby, Windsor Richards, Edman, James Murphy, T. Mosses, Brown (Machen), James C. Thomas, Cox, Elias James, G. J. May (North), Row. Vivian, Robinson, Llewellyn Llewellyn, Green, Neagle, Hosgood, Curwen, George James, C. Gray, Jabez Brown, Elliott, Roper, Trotter (Forest of Dean), Jones, Dumary, Bates, Cope Pearce, Lee, Bridgen (secretary), &c.

The following New Members were elected:—Messrs. A. Clarke Jones (Ukeshire Ironworks), M. Bates (Cyfarthfa Works), Llewellyn Llewellyn (Pontypool Ironworks), and Thomas Curwen (Plymouth Works).—The following gentlemen were re-elected Vice-Presidents: Mr. Richard Beddington and Mr. F. Levick, jun.—The following gentlemen were elected Members of the Council: Mr. Windsor Richards, Mr. Beddington, Kirkham, H. Banks, Mr. H. Cope Pearce, Mr. Edward Williams, and Mr. Phineas James.—Mr. Evans, of Cardiff, Treasurer.—Mr. E. Briggs, Secretary.—Mr. M. Truran and Mr. Trump, Auditors.—Mr. Beddington and Mr. Cope Pearce, Examiners of Accounts.

The discussion on Mr. BROWN'S paper, "On the Comparative Systems of Coal Mining in the North of England and South Wales, with Respect to Accidents and Loss of Life," was recommenced by

Mr. BATES, who said that the subject under discussion was one of such great importance that, in order to give the paper and the many questions therein fairly play, and there being so many quotations and figures, he had made a few rough notes of the remarks he intended to make, fearing that in the matter of quotations and figures his memory might fail him. Mr. Brown's paper lays a grave charge against the system of the district in reference to the working by the pits and mines, and detrimental to the safety of the lives of the colliers and miners. And it behoves us, we that are officially connected with the system, to look it fully and fairly in the face, and see if it can be legitimately substantiated by reason from the data Mr. Brown has built upon. I have been connected with both districts, and, of course, acquainted with both systems of working now under discussion, and I will now give you my opinion on the subject, as briefly as I can. I took upon Mr. Brown's paper under the three following heads:—First, its application in reference to the safety of the lives of the colliers, which is a very important point indeed; secondly, its application in reference to the economical working of the pits and mines; and, thirdly, the probabilities of its application, or the difficulties in its path, compared with the North of England. First, then, its application in reference to the safety of the lives of the colliers and miners. It is true that the aggregate proportion, or percentage, of loss of life in South Wales, as given by Mr. Brown, is not in Mr. Brown's paper; but I most respectfully beg to differ or dissent from the opinion assigned by him, as writer as to the cause of the difference—that it is in the system of working the pits and mines, the colliers having the twelve hours per day instead of eight hours, as in the district brought forward for comparison, and thereby risking their lives one-third more time to the incidents of danger in a mine. I hold that there are other causes at work, which are totally different in each separate district, that might account for the difference in a more satisfactory way; and if these causes are really as Mr. Brown says, they should probably see what these causes are. To do this let us transport ourselves to the northernmost county, and take a survey of these places. Beginning at Backwith, and passing on through the district in which Seghill, Cramlington, Seaton Delaval, Rebside, Bedlington, Cowpen, Netherton, and North Seaton are situated, we find in all these places a first-rate roof or cover to the seams of coal, with very little in South Wales to compare or equal; in fact, I have seen myself in the Bedlington Colliery 50 stalls with not one stick of timber in any of them. The cover to these seams is locally called a "pew," and it is an undeniable fact that all the steam coal collieries have infinitely better covers of coal than any in South Wales has. Again, the coal seams are not so thick, generally speaking, in the district compared as they are in South Wales, which we will all admit is another source of danger. And of Yorkshire I have little personal knowledge; that is, in reference to the tops, or covers, to their seams of coal—so that we will pass it over, with the only remark that we think Mr. Brown has no right to compare Yorkshire with South Wales, especially when the case is set up with the statement that the difference of accidents arises from the hours of working, because, singularly enough, although Yorkshire stands the most favourable on the list, the same system is at work there as is at work in South Wales, who do far to prove that it is not in the system of the working; if it were, what holds good in one case ought to hold good in another, all other things being the same. Therefore, as there is no analogy between Yorkshire and the other two counties which it is put with by Mr. Brown, it ought fairly to be quoted with the side it belongs to. But notwithstanding this we will compare South Wales with Northumberland and Durham as they stand. Again, as a reason to support this argument, it is said that if a person never goes down a pit he will never be killed in one, and that if a person never gets in a railway train he will never be killed in a railway train, and so in proportion to the less hours he risks his life in either pits or trains. This proposition is so plausible and reasonable that we are bound to admit it as a fact. But here, again, we shall be unable to trace the analogy between the two, inasmuch as it is not held that a man ought never to get into a train, or into a pit or mine. Therefore, the case ought to stand as follows:—Supposing a person was in the habit of travelling by train 250 miles per day in 12 hours, and he alters his system and travels the same distance in 8 hours, thereby increasing his speed one-third, or completing his journey in two-thirds of the time, does he lessen the probabilities to accidents thereby? We should certainly say no. The faster he goes the more liable he is to be killed. Now, this is a parallel case to the collier. It is assumed that he will cut as much coal in 8 hours as he does in 12 hours, he only having to increase his speed in proportion; consequently, he travels the same distance underground, and in cutting the same amount of coal he cuts through as many backs, slips, and crevices in stone and coal in the 8 hours as he will do in the 12 hours; and we all know that these backs, slips, and crevices are the places where the most accidents occur, and with less time to examine their working places, and they being in an excited state on account of hurrying to get their living in a shorter time, might possibly—say I would say probably—give rise to more accidents, under the 8-hours system than under the 12-hours system. Therefore, I am of opinion that the causes of the difference must be looked for some other way; and to prove these premises, and to substantiate them with reason, we will take the same table from the Government Inspectors' reports as our friend Mr. Brown has; and as the tables are made and given in so lucid a form we will take them as they stand. Now, if we compare the accidents, and analyse the tables a little, then we may probably compare to advantage our inferences, and see if our deductions flow logically from our premises, or if at all events, be liable to discovery, which of the two is the most coherent. The table is divided into three heads, as follows:—"Explosions and falls in mines," "Accidents in shafts," "Miscellaneous underground," "Accidents on surface," and these heads are subdivided into many other heads, which I beg to refer you to in the table. There you will observe that the division of these three heads are appliances, or contrivances, of each district to meet their several cases, consequently the skill and ability of the contrivers in this comparison will be here seen in reference to the all important subject—the safety of the lives of the colliers. Also, you will here observe that these appliances are common to all districts; they being put by the people are things over which they have had some control, consequently a fair and impartial contrast can here be made. To commence this contrast we will take the heading "Accidents on the surface" in the Government Inspectors' reports, which comprise "Accidents by machinery," "Rollers bursting," "Miscellaneous on surface." And here let us see how we stand in these divisions locally, as given by Mr. Atkinson and Dunn, 18 deaths, or 1 in every 2655 persons employed. South Wales has, as given by Mr. Bates, 6 deaths, or 1 in every 3843 persons employed. Again, we will take another heading, "Miscellaneous underground," which comprises "Explosions of gunpowder," "Suffocation by gases," "Irritations of water," "Falling into water," "By machinery underground," "Sundries underground." The divisions of this heading, you will again observe, are common to all, and we here find Northumberland and Durham to have 35 deaths, or 1 in every 1644 persons employed. South Wales has 14 deaths, or 1 in every 1616 persons employed. We will now pass on to the next heading, "Accidents in shafts," which comprises "Overriding," "Ropes and chains breaking," "Accidents whilst ascending or descending," "Falling into shaft from surface," "Falling from part way down," "Miscellaneous in shaft," and under these divisions Northumberland and Durham have 25 deaths, or 1 in every 2491 persons employed. South Wales has 6 deaths, or 1 in every 4816 persons employed. Or, if we take the total number of deaths that have occurred under these three divisions, as they all really belong to one category, we shall, perhaps, see the relative standing of each district a little plainer. Northumberland and Durham have 88 deaths, or one in every 654 persons employed. South Wales has 31 deaths, or 1 in every 838 persons employed; or, Northumberland and Durham have 68 per cent. more than South Wales. The next, and fourth, heading I wish to draw your particular attention to; it comprises "Explosions of gas," and "Falls of stone and coal." You will observe here, a striking difference between the other three divisions and this one, inasmuch as the formations of stone and coal, and the generating of gases, are not appliances; they are things—loose strata, bad covers to the seams of coal, steep measures, thick

seams of coal, faults and dislocations—over which the people of the district have had no control, only we must and are bound to cope with them in the most successful way we can. In this division alone does South Wales stand on the worst side of the question. Northumberland and Durham have under this head 70 deaths, or 1 in every 836 persons employed; whilst South Wales has 73 deaths, or 1 in every 393 persons employed; which fully bears us out in saying that it was to other causes we must look to account for the difference of accidents, especially when we see districts that have the same system at work as South Wales, but on account of the stronger and superior covers to their seams of coal, and other local advantages in their favour, have less accidents even than the districts that have the eight-hour system at work; and when the South Wales district can and does stand in favourable comparison compared with things, or appliances, over which they have had some little control, what reason is there that it should not do in another department, all things being the same? Again, we will look at the Government Inspectors' reports, and see what they say on the subject of falls of stone and coal—the heading, be it remembered, under which South Wales stands the worst. Mr. Dunn says, at p. 11, that the causes of these deaths were from invisible slips; Mr. Dickson, at p. 47, says the cause of death was two unseen slippery parlours; Mr. Wynne says, at p. 71, that we must not expect that every danger can be foreseen; Mr. Brough says, at p. 86, that the deputy had just left when the mass fell, and then a slip was perceived which was not previously visible; Mr. Bates says, at p. 124, that he carefully examined into the causes of several of these cases, and in no single instance did he ascertain that there had been an inadequate supply of timber; but is often difficult to find out when the roof is dangerous, the usual test often proving fallacious. Consequently, it must follow that the districts which contain the most of these unforeseen and invisible slips and crevices are the most liable to accidents. These reasons, and the foregoing analyses of the tables of accidents referred to in Mr. Brown's paper, plainly show and prove that it is the local natural disadvantages which are the cause of the difference. So much, then, for natural advantages, which are in many cases far too much underrated, when reason and experience tell us that natural advantages will do for a district what station and wealth do for individuals. Next we come to the second division—its application in reference to the economical working of pits and mines. On this point we cannot but admire the principles of the paper very much. It is well known that the most advantage we can take of any system the cheaper we can work it; or, in other words, if the quantity raised under the most disadvantageous circumstances obtains a price in the market equal to the cost of its production, it must follow that all raised above that quantity will be of a greater advantage, the selling price being, of course, the same. Besides, when there are large and small collieries in business at the same time, those which carry on on the largest scale, and take the greatest advantage of labour, form the principals of utilising labour. These principles of political economy hold good in every branch of business, and are so well known that we need not say more about them here. Therefore, there is no doubt that if we can work our pits and mines in such a manner, or with two shifts of colliers for one of hauliers, hitches, &c., and keep the pits going 12 hours drawing coals, instead of, as at present, 10 hours, and on account of the extra quantity of coal got, and the dead work, yearly rents, taxes, &c., not increasing in proportion, a more economical coal-sheet must be produced. But we come to the third division—the probabilities of its application, or the difficulties that lie in its path, compared with the North of England. To do this we must again look at the two districts in a comparative point of view. Mr. Brown has delineated the North Country system of working pits very well. He has given us the rise and progress of a North Country collier from a trapper-boy, through his various stages, to the position of a collier. He has also given us a description of the time of commencing work—some at two o'clock in the morning, others at three, and others, again, at five. Coupled with the duties and customs of overmen, back overmen, master wasters, deputies, &c., it would be useless for us to compare the duties and customs of the officers in each separate district. Therefore, we will confine ourselves to the general principles of both. No doubt some of you have thought of the early time of rising to commence work, and have thought of the difficulty there would be in getting men to work at two o'clock in the morning in this district. Mr. Brown has left out of his paper a great advantage the North have over South Wales on this point, which I will now lay before you, as it is necessary to have both sides put fairly in order to arrive at a just conclusion. In Northumberland and Durham the coalowners or colliery proprietors build houses for the colliers, the colliers in return cutting the coal at so much per ton less, on account of it, with the exception of cases where the colliers are not occupying houses belonging to the company; in these cases an allowance is given to them, generally in the shape of so much per month as house rent, which amounts to the same as so much per ton. I may also here state that when the double shift was introduced, so much per ton had to be paid for double working. This being the case in the house question, we proceed to observe that in the pits and houses all located in the village, in one field, so that it is a simple matter for a person to go round the village, and knock at any person's door that wants to be up at any given time. And this is the custom. A person is paid to do the work; so that he goes round at two o'clock, again at four, or at five, as the case may be. In South Wales, instead of the pits and houses all being located together, you may, generally speaking, take your stand at the pit, and describe a circle with a radius of two miles, in which the workmen reside; and if we had a turn or shift of men to go to work at two o'clock in the morning, it would be owing to the great distance they reside from the pits, that a person could not get round in less than 15 or 20 minutes the time he would be required to do to get them all at the pit together; consequently they would be all left to rise without any assistance; and from the irregular time of waking without any assistance, I am afraid the difficulty would be great, inasmuch as in the districts where the houses are all located together, they have to render that assistance which is required under the circumstances. Moreover, I think we are right in saying that there are only those two counties—Northumberland and Durham—in the United Kingdom, where the masters find the colliers' houses; and although only those two counties that have the system at work which Mr. Brown refers to; so that, no doubt, other districts find the same difficulties as South Wales does, as they have not adopted the same principles—that is, of course, if they admired the principles, and thought them worth their attention. Therefore, under the existing circumstances of South Wales, I do not see any likelihood of its adoption.

Mr. BROUGH having observed that he perfectly coincided with Mr. Brown's views respecting the advantages of the double shift system, went on to say that there would be a great difficulty, as was observed at the last meeting, in getting a double set of men in the mining districts of South Wales. They would, as well as he did that if two sets of men had to work in the same pit, or in any other working place, the difficulty would be to get them to work harmoniously together and to trust each other; and until they removed that feeling of doubt and suspicion respecting each other, a difficulty would always exist in introducing the double shift system. There could be no reasonable doubt whatever that the system was an admirable one, but until they got the men to trust each other, and the second shift to fairly and faithfully carry on the operations already begun by the first shift, there would always be difficulty in adopting the double shift system to South Wales. That the difficulty could come from the difficulty of the distance at which the colliers in South Wales live from their work. It would take a "caller"—and they would be bound to have one under the double shift system—such an immense amount of time to get to all the cottages as to destroy its useful effect, and, therefore, until cottages were built for the colliers and miners nearer the works, there would be also that difficulty. If Mr. Bates had explained all to the meeting he had to him (Mr. Brough), he felt that he had nothing more to say.

Mr. A. BASSETT said there was one point raised by Mr. Bates in the paper he had just read, upon which he should like to make an observation. He did not know whether he was right, but he understood Mr. Bates to say that the faster they worked the greater their liability to accidents. Now, he would not agree with that, because it would be tantamount to saying that the faster they worked the more they would be liable to accidents. He could not see why proper supervision should not be had over a colliery where a proper quantity of coal was raised, as well as over one where half the quantity was raised. He did not agree either with Mr. Bates's simile as to travelling by railway. He agreed with him that there was more liability to accidents on railways where trains travelled 40 miles per hour than if they travelled 20 miles per hour; but he did not think it a fair analogy to apply the case of a railway train to the pushing on of one colliery with greater speed than another.

Mr. BATES said he thought Mr. Bassett rather misunderstood what he said. He did not mean to say that a colliery getting 100 tons a day would be more liable to accident than one getting 50 tons a day; if a colliery was getting only 1 ton per day it required a man to get that ton. Now, if he had to get that ton of coal, as at present, it took him twelve hours. If he got it in eight hours he cut through all the dangerous threads and crevices which he met with just the same as if he had twelve hours to cut the ton of coal in, and, therefore, he would have less time to examine his working place and the threads and crevices; and, also, having to get his living in a shorter time his attention might be more directed to getting his living than examining his working place, and the probabilities were that more accidents would occur.

Mr. BROUGH said that was very good. If a man had only eight hours to do the same work as he formerly did in twelve, he was safer in the latter case by 33½ per cent.—Mr. BASSETT understood Mr. Bates's meaning, but still he was not convinced that there was that great amount of danger he represented. They had all their officers in the pit to perform their duties, and, therefore, he could not see that the whole of the extra work was thrown on the man who cut the coal. No doubt he would have to cut through the threads and crevices in less time, but he did not think the proportion of danger was in the ratio laid down by Mr. Bates. Mr. Bates's remarks on the subject were clear and well heard, and knowing him to be largely connected with colliery operations, they had the greatest respect for his opinions.

THE CHAIRMAN said before Mr. Brown replied he wished to say a few words. He quite agreed in nearly all Mr. Brown had brought forward, and he thought the sooner the better they got the double shift. It might not be the proper time now, but when were they to get it? It is the clearest, easiest, and, he believed, the safest system of working if it could be brought about. He thought it was time something should be done, and he believed that discussion would lead towards the getting of it. Mr. Brough spoke about the difficulty of getting people up at two o'clock in the morning. The colliers now had to get up at a particular hour—say, six o'clock; they were not called, and he did not see why they should not be able to get up at two o'clock just as well as at six o'clock.

Mr. BROUGH: Get them into the habit.

THE CHAIRMAN: There was no doubt the smallest area underground in which the proper quantity of coal could be got was the best system. With regard to cheapness, he had not the least doubt it would be so, per ton at least, cheaper, which was a very considerable sum. He had nothing further to say, than that he concurred in what Mr. Brown had said in his paper through the whole of it.

Mr. BROWN said he thought the principal part of the discussion had ended, and, therefore, it was his duty to reply to the whole case, and he would take the whole thing as it presented itself. Since the paper was read he had been to some little trouble to get information as to how the system was introduced; and, perhaps, it would be interesting, and lead to a better understanding of the question, if he made them acquainted with the results of his investigation. From authentic sources he had found, as no doubt many present

were aware, that the men employed as hauliers were intended to meet a crude method of mining—in fact, they were introduced when mining was in its infancy—when coal was introduced at little cost, and a high price was got for it in the market, and then but little attention was paid to the best description of carriage to be employed in getting the coal to bank.

Mr. Brown was reading from a paper, when the CHAIRMAN interposed, and asked Mr. Brown if he was not adding to a paper that had already been read? If Mr. Brown would confine his reply to the observations that had been made he would get on much quicker.

Mr. BROUGH: You think this is fresh matter?—The CHAIRMAN: Yes. I will put it to the meeting, and if it is their wish to have this long paper read I cannot help it.—Mr. Cox said they should be happy to have it next meeting as a supplemental paper.

Mr. BROWN said that, although it was not fresh matter, he would not proceed with the reading of the paper, but in as brief a manner as possible deal with the arguments which had been raised in opposition to those he had advanced. The first question was as to the deputies. That was a repetition of the old cry—that another person would take more care of the collier than the collier would of himself. Now, he wanted to show that this was a fact—that a deputy would take greater care than a collier would. In the first instance, they paid a collier for putting in a double timber, and they could hardly get the collier to give up putting them in; but he was not paid for putting in the gob timber; he was paid for that in the ton of coal, and the consequence was that when he could not get the gob timber in, he would not put it in, and the gob would be allowed to stand, and any practical miner knew pretty well that when a prop was allowed to stand in a gob it was most dangerous both for the working of the pit and the safety of the men. They could not get the men to take the timber out of the gob; it was to their interest to keep it there, but not to put it there. Now, if they had a deputy coming in to find the timber, the men would naturally look to their own safety, and would call out for timber if wanted, when they would not put it in; and, knowing that the back timber was really an injury, they would for their own safety, even when they were in trouble to take it out, call some one to take it away for them, and the result would be that the stone would go back into the gob. While, if the timber was not attended to, falls in the roof took place, and not only would the lives of the men be endangered, but there would be a greater crushing of coal, and, consequently, a loss to the proprietors. But it was said the collier would take the matter up, and the deputy would not be required. However, as the deputy was specially paid for attending to the duty of putting in the back timber, and seeing that it was properly attended to, whilst the collier, if he put it in, would let it stand, he contended that the system of employing a deputy was far preferable. The next point he would notice was—it was objected that the comparisons he had made were not fair. Mr. Bates had said, and Mr. Beddington agreed with him, that the comparison was not a fair one on the tons of coal per life, and that to be fair it ought to be made on the number of persons employed. Now, these were things he did not wish to enter into in a financial manner, but he gave the tons of coal as the best comparison they could have, and to fetch it round he had gone into statistics, and taken some trouble in working them out. That showed the value between master and man. Mr. Bates had remarked that he ought not to have included Scotland, as it showed better than the counties of Northumberland and Durham. He (Mr. Brown) had distinctly stated in his paper that he was acquainted practically with Northumberland and Durham, but of Yorkshire he knew nothing about, and he only took it because it was referred to by other people; and on the day he read his paper before them, on that very day, April 25, Mr. Jabez Hogg read a paper on the same principle before the Society of Arts. Well, then, leave Scotland out, and take the averages of the ten districts now under inspection in England and Wales. Mr. Brown was here reminded by Mr. Adams, Mr. Bates, and others, that it was Yorkshire and not Scotland that had been referred to.

Mr. BROWN observed that if he said Scotland he was wrong. He would now take the averages, leaving Yorkshire; but he held that to say they were wrong in the North of England in working short hours, they in South Wales must say they were right. And if they could in the North of England save more lives by short hours than they would in South Wales by long hours, and they still said they were right, then all he could say was that they must rest and be satisfied. But if any man could do that under present circumstances, and with the present system, he certainly thought such a man was satisfied with a great deal standing against them. Now, he wanted to show them the true position they stood in in relation to their neighbours; and it was no use for him or any other man to shrink in the question, and the responsibilities they had taken upon themselves. They should rather try to extricate themselves by bettering the present state of things. Well, there were only two districts with which South Wales could favourably compare in point of persons killed proportionately to the number employed, and these were Lancashire and North Wales, and some Staffordshire and Worcestershire. In the former there was one life lost to every 221 employed; in the latter one to every 224; and in South Wales one to every 277. The former raised 68,181 tons of coal per life lost, the latter 85,764 tons per life lost; and South Wales, 66,171 tons per life lost. The averages as follows:—

	In other districts.	South Wales.
Life lost by accident	77	105
Persons employed per life lost	370	277
Tons of coal raised per life lost	112,837	66,171
Men employed in each district	26,582	29,076
Number of pits in each district	266	332
Number of men in each pit	99,963	87,562
Coal raised in each district	8,386,102	6,948,009
To each pit in the district	31,526	20,927

Here it would be observed, whilst in South Wales they employed 2494 more men, they raised 1,432,102 tons of coal less, and this advantage over the two districts was like a drop of water in the bucket, while in South Wales it was the bucket itself. He contended that the most coal taken out in the least time and space made sharper work, shorter hours, and economy of life and labour. It had been said by Mr. Beddington, and his remarks would be found in page 52 of the Society's Quarterly Report, that double the quantity of men would be required if the double shift system was adopted; and he asks when are the men to come from? Now, he could not understand how double the quantity of men would be required. Mr. Beddington was evidently labouring under a delusion, and to make the matter plain and intelligible he would suppose a case to illustrate his meaning. He would take it that Mr. Beddington had a pit the machinery and establishment of which was to raise 600 tons per day, and his underground work was laid out under the present system for the same amount. Now, no one could imagine that he (Mr. Brown) was such an imbecile as to suggest that he was to take out 1200 tons. But what he (Mr. Brown) said was, you have 120 pits, and you take out 5 tons each, or 600 tons per day. Now, lay half of these places off, or in other words, reduce the number to 60, and by employing the double shift raise 10 tons from each place, the same as before. That was what he meant. He would also say that if they could not take the coal away to give the man clearance, that it was the management that was at fault, and not the system; so that, instead of more labourers being wanted, they would liberate many "dead-workmen," whose services would be available for coal cutting, and with short hours they would readily take to it. His next proposition embraced the division of labour, which was of the most important nature, and he would state that if the men could get up at two o'clock, as had been suggested, he would take it that the men would have to get up at four o'clock, and he did not think a man would find much difficulty in getting up at four o'clock instead of six o'clock; if they did they must certainly be very fond of their bedfellows. (Laughter.) Suppose the underground staff consisted, all told, of (say) 400 souls, he wanted the division to be something like the following:—5-16ths of the whole to go in at four o'clock, 5-16ths to follow these at 11 o'clock; 4-16ths of the principal boys to go in at 6 o'clock in the morning, and done at 6 o'clock in the evening, and 2-16ths at 6 o'clock, &c., go in at night to put the pit right. Some had stated that if the men could get up in double the number at one time and stop the long hours it would do as well. To that he decidedly said no. His object would only be partly gained by lessening pit room; whilst the whole of the pit's crew would be a prey to accident such as had befallen others. He said it would not. They had a case at present before them of the evil of which he complained, where all the men went into the pit together, and they were all gone. Now, his aim was to get that avoided. He did not want the risk of all the men being swept away together, every one. He wanted a division of labour—that only one-half of the men should be in the pit at the same time, so that if an accident occurred the lives of only one-half of the hands would be endangered. A division of labour was the real thing they wanted—it was most desirable that it should be brought about, and he earnestly hoped it would be in his time. There was another point to which he begged particularly to call attention. Mr. Bates had had, as they all knew, a great deal of practical knowledge of the North of England, and he said that the roofs were so good there that they could scarcely be compared with those in South Wales. Now, he (Mr. Brown) said if they put Northumberland and Durham under the South Wales system they would see as bad roofs there as in South Wales. Mr. Brough had said he had only seen one bad roof there, and that was the Five Quarter Seam; he was happy to say that he could bear Mr. Brough out. If he had seen that roof under the South Wales system he would never expect after going down to see the surface of the pit again. There has been complaints made of the large amount of gas generated in the pits of South Wales, but he had seen some of the most fiery mines in Northumberland and Durham, and he never saw so much gas generated as in the pits of South Wales, and he said that was a great argument in favour of curtailing the pit room, for the generating of gas was greatly owing to the large extent of this bad roof to the bad roofs. He would ask did the extension of pit room prevent it? On the contrary, he said that it increased the evil, and the less pit room they have the better would be the roofs. To make a place good they would not open up a whole district they could not command; he would say fetch it in, curtail it, then they would have it under control, and the result would be that the place would be better kept, and there would be less loss of life. Having referred to Mr. Brough's and Mr. Wells's reports, and expressed a hope that they would have better reports to make in years to come, the speaker proceeded to point out how the ventilation would be better with less pit room; and, in conclusion, he said that double shifts, short hours, less pit room, and sharp work was the most safe and profitable way of carrying on collieries and mines, and he thought every man would say that it was the most legitimate and best way of working coal in South Wales.

Mr. BROUGH said that, with the permission of the Chairman, as Mr. Brown had referred to Mr. Wales and himself in his observations, he thought it due from him to say a word or two on the subject in reply. Mr. Brown had been talking to them in a kind of *argumentum ad hominem* style—in fact, he had been talking to the men and not to the subject. He thought, if Mr. Brown took notice of the discussion at the last meeting, he would find that there was in reality hardly any opposition to his paper—in fact, that a great majority would be found to be in favour of his scheme. Mr. Brown appeared to take it that there was a strong objection to it—that Mr. Wales, Mr. Beddington, himself, and others, all objected to it. Such, however, was not the case. All they did was to point out the difficulties which stood in the way of bringing it into existence. There were no objections to the scheme itself, and the arguments adduced now and at the previous meetings tended to show that it could not now be carried into effect. There would be no doubt that the system was all right, and he hoped the time would come—yes, in his time, and he was older than Mr. Brown—when it would be adopted. Mr. Brown must not suppose that they were objecting to his view; and he would take that opportunity of saying that both Mr. Wales and himself would like very much to see his system adopted, and that they did not advance any objections to it—they only pointed out the difficulties to its being carried out at present, but when it was once got into operation, he believed it would be preferred to any other system that had been adopted. Whilst on his legs he felt it right to make one or two practical observations in reference to the present mode of hauling, and especially that of em-

ploying very young boys to do the work of hauliers. Now, speaking of hauliers on the South Wales method of winning out of a working of coal, the very young hauliers Mr. Brown had spoken of would not suit them. What they wanted were strong, able-bodied men to do the work, and not young, weak boys, and so long as they continued the system of hauling they now had, very small and young hauliers would not do. He most strongly objected to the practice of getting door boys to become hauliers, and the mortality of children, taking the doors to be hauliers, was very great—in fact, the number of boys that got killed in this district from that cause was frightful. He had referred to it over and over again in his annual reports, but it still occurred time after time, and he thought it was a most cruel course to take boys from the door to go the hauliers. They got overpowered by the ponderous weight of coal. The trams in South Wales many of them weighed half-a-ton and even more, leave alone the coal they carried, and boys of tender age and weak were not suitable for them, and being too young and weak for the work, their lives were in constant danger.

Mr. BATES felt necessitated to make a few remarks in reply to Mr. Brown. He concurred with his paper to a certain extent. As he had said in his observations under the second division—that so far as the economical working of the mine was concerned, he felt that they could not but concur in the principle of working by a double shift. He, however, dissented from Mr. Brown as to the cause of the accident. He made the remarks he had because he believed them to be right and reasonable, and because they were his honest convictions. In his observations he said that he thought Mr. Brown had no right to bring in Yorkshire in his paper as a comparison with regard to accidents; and yet, now, it was singular that in his reply he had alluded to it again with regard to accidents; and he (Mr. Bates) maintained that there was an inconsistency in his making use of that district both for and against his argument. He begged to say that he differed from Mr. Brown as to the conclusions he drew therefrom.

Mr. BROWN said Mr. Bates had alluded to the economical working of coal pits, but he begged to say that this had nothing whatever to do with his paper. It was the safety of the men's lives he had to do with. As regarded Mr. Bates's observations about his using Yorkshire for and against his argument, he distinctly said in his original paper that he knew nothing of the Yorkshire coal fields, and he had to draw his conclusions from reports that were going about. Mr. BEDDINGTON, in the course of a few remarks, asked if Mr. Brown, by his proposal, wished to work 300 men at each turn in a pit that produced 600 tons a day? If he intended to work up to the full working power of the colliery, then he would require additional men.

Mr. BROWN replied that what he proposed was to work, as in the instance he cited, 600 tons a day by the double shift, instead of by one turn in 12 hours. The CHAIRMAN said the next paper was that by Mr. BATES, "On Underground Lead." He thought that at the last meeting it was understood that it would be included in the discussion "On the Clip Pulley," by Mr. H. W. MARTIN. No discussion, however, took place upon either paper, but Mr. Bates briefly explained the principles of his by means of a large drawing.

Mr. BASSETT quite coincided with the system, but he objected to the great heat necessary to be generated near the boilers, the system being a substitution of steam for horse-power.—Mr. BATES explained the system as at work in his own pits, which was working most satisfactorily.

The discussion on the paper "On the Cornish Engine," by Mr. LOAM, was adjourned, in consequence of the absence of Mr. Loam.

The CHAIRMAN said he was afraid they would not have time to read Mr. Bassett's paper "On the Port of Newport, and its Coal Field," and he thought it would be advisable to adjourn the discussion on Mr. Beddington's paper "On the Duration of the South Wales Coal Field," which has already appeared in the *Mining Journal*, until Mr. Bassett's paper was read.

Mr. BEDDINGTON: I think it very desirable that the discussion should be adjourned until Mr. Bassett's paper has been read; as he has written one part of the South Wales Coal Field, it will be better for the discussion on both to be taken together.

The SECRETARY read the paper "On Mechanical Ventilation," by Mr. COPE PEARCE, and on the proposition of the CHAIRMAN, seconded by Mr. ADAMS, a vote of thanks was accorded to the writer.

The paper "On the Structure of Iron," by Mr. W. W. VIVIAN, was also read by Mr. BRIDGEN (the secretary), and a vote of thanks was passed to Mr. Vivian, on the proposition of Mr. ADAMS, seconded by Mr. TROTTER.

In consequence of the lateness of the hour, Mr. A. BASSETT was only able to read portions of his paper "On the Port of Newport, and its Coal Field," and the further reading and discussion were adjourned until next meeting.

After the meeting, the members and friends, mustering very strongly, dined together, under the presidency of Mr. G. Martin, who was supported by the Mayor and Town Clerk of Newport. The usual loyal and complimentary toasts were duly honoured, and the catering of Host Hallen gave entire satisfaction.

Royal School of Mines.

MR. WARINGTON SMYTH'S LECTURES ON MINING.

LECTURE XVII.—After rehearsing the various points of importance set before the pupils in the previous lectures, and adding some further information on the subject of the splitting of rocks to the remarks at the close of the last, Mr. Smyth said that in the opening of all mining operations the cost of labour was a matter of the greatest importance. The cost of breaking ground, and also the cost afterwards of breaking it down for the purposes of yield, must both be carefully regarded, if the mine was to be conducted with economy and success. It had been suggested that machinery might be used as a substitute for manual labour in cutting coal, and some years ago an attempt was made, the first of its kind, by the late Mr. Peace, of Wigan, in this direction; and his contrivance was ridiculed by the name of the "iron man," and it was looked upon with so much mistrust by the colliers that it, perhaps, did not get a fair chance then. In the last few years, however, the same subject has excited a great deal of attention in the coal districts, and it is now peculiarly hard and the conditions under which it is obtained make it appear reasonable that something of this kind will be used with advantage. The coal-cutting machines have of late years been brought forward again with many modifications, but up to the present time none of them have been worked long or regularly enough to allow it to be stated which may prove most available on the large scale. The motive-power is obtained by water-pressure or by steam, either at the mouth or the foot of the shaft; and the implement brought to bear on the coal is a large iron pick, flung horizontally, as it were, at the face of the coal, and underdriving it to a good depth with facility. There is, however, no doubt that in order to work successfully many conditions as to the height of the seam and other matters must exist. If it were a thin seam, and the workings narrow, it would be almost impossible to use the machine, but if the workings are laid out suitably, and the seam be regular, and with a good roof, the machine may be expected to perform its work successfully. There is no doubt but that these machines, if put into a certain colliery, will do a surprising amount of work, but they have not been long enough tested as to make us able to say they will be successful in every case. One of these modifications, that of Messrs. Garrett and Marshall, has been spoken of very highly; instead of the action of the pick, it is made to have a slotting motion, which grooves the face of the coal, and brings it down without that violent impact which the pick would use. These systems are, however, at present wholly *sub judice*; and all that can be said is that one or other under different circumstances will have different degrees of success. They have undoubted elements of success in them; and within a short time we shall, probably, find these machines supplying the place of a good deal of the manual labour at present required. This is quite apart from the system of drilling holes in the rock for the purpose of blasting, and applying gunpowder to the work. In a comparatively thin thing of recent date; and it has been one of the greatest boons to metallic mining in the last two centuries that can be conceived. Gunpowder became generally known about 1354; but it was at the comparatively late date of 1613 when Martin Weigel proposed to apply the force obtained in this way to mining. It first began to be used in 1632 in Saxony and the Harz; and years after that it came to be used in France and England. Its use was at first confined to blowing down portions of rock prepared by other instruments. And the introduction of powder into the health of the miner, for two reasons. In dry mines, when quartz dust was inevitably inhaled under the old mode of working, the miners' sickness produced great ravages, but now it is comparatively slight. And, secondly, the use of gunpowder makes better ventilation necessary; and instead of little levels, in which the miners had to walk double, they can now walk upright, the increased size of the passages increasing indefinitely the ventilating capacity of the mines. As to the results, he might mention the case of the Esgair-Irth Mine, in Wales, where the levels were formerly very narrow, and the rock extremely hard, but by the use of bore-holes and powder, as it was stated, at the beginning of the last century, two men could now do as much in the same time as six men formerly did with pick and wedge. Mr. Smyth then proceeded to consider in detail the methods adopted in blasting, as a large proportion of the cost depended upon the method pursued, and the men ran great risks, unless great caution was observed. The principal implement was the borer, called by the Germans "bohrer." It was called the "fleuret" or "pistolet" in France; drill, jumper, and auger in other districts. Having described the implement and its application, he expressed an opinion that it would be impossible in metalliferous mining, in hard ground, to replace that process, as it was stated, by machinery. But where labour was required on a large scale, there machinery and steam-power could be applied with advantage. At the Bangor Royal Slate Quarry a small American boring-machine had done good service in putting down the large holes required for firing heavy shots; but for general blasting its use was questionable. And, again, in the gigantic operations at Mont Cenis, where they were boring through the Alps a tunnel of full size for railway purposes, the machinery employed occupies the place of a vast number of men. The rock was not of a very hard character, being schistose, and in some places of a calcareous character, but nowhere was the miners in the quarry would consider very hard ground. In regular metallic mining, however, the advantages of machinery over manual labour could not be so much as was generally supposed. The expense of the preparatory work necessary for its application was always considerable; and to convey steam-power into the deep and remote levels must always be extremely inconvenient. In dealing with very hard rock, mere force, such as that of machinery, is very different, and less effective, perhaps, than that of the miner, with skill in setting the holes, would employ. He would be able to make use of every crack, and take advantage of its brittleness in various directions, and so produce effects which were blows from a machine could not. It may be that we shall obtain machinery capable of boring holes suitable for blasting in rock of moderate hardness. A useful drilling engine was already at work at the Vieille Montagne Mines, and had been tried at Freiberg. Tin and copper veins were generally composed of hard material, and it was admitted that even the best steel implements, worked by machinery, were at a disadvantage when employed on quartzose materials. Hand labour, no doubt, was expensive, but it was capable of being more carefully directed; and they would find the skill of the men would be more developed by being exercised upon different classes of rocks as to the proper direction of the holes, than as to the mere boring and blasting itself. Machinery, then, had not the same advantage in that respect as working by hand.

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W. L. BANKS, Esq., Pontywal Hall, Breconshire (Chairman of the Neath and Brecon Railway, and of the Brecon and Merthyr Railway).

FREDERICK HARRISON, Esq., 15, Carlton Villas, Maida Vale, London (Director of the Brecon and Merthyr Railway, Mount-place, Brecon).

JOHN J. WILLIAMS, Esq., M.D., Magistrate for the County of Brecon (Director of the Brecon and Merthyr Railway, Mount-place, Brecon).

GEORGE B. MURLY, Esq., Langport, Somersetshire (Director of the Hirwaun Coal and Iron Company, Limited).

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PROSPECTUS.

This company is formed for the purpose of leasing and working the minerals contained in the Onllwyn, and the Rhydfosddu, Cefn-yr-Erw, Castell Coch, and other estates, at the head of the Dyffryn Valley, and situate partly in Glamorganshire and partly in Breconshire.

These properties together form a total area of nearly 1000 acres, all in a ring fence. The Onllwyn property is held for a term of 33 years, and the Rhydfosddu, Cefn-yr-Erw, and Castell Coch Estates for a term of 39 years, at royalties of 8d. per imperial ton on all coal and ironstone, and proportionately low rates for fire-clay, building stone, &c. The dead rents average £1 per acre, and all the leases are determinable by three years' notice at the option of the lessees, but not by the lessors.

The Onllwyn estate consists of nearly 700 acres, and comprises in the section the Upper Four-foot coal, the Eighteen-foot, the Nine-foot, the Lower Four-foot, and other veins, making a total workable thickness of between 30 and 40 feet.

Under the whole of this property are also contained the series of argillaceous ironstone belonging to the north out-crop of the South Wales mineral basin. All the seams of coal and ironstone are fully proved by existing workings, and are shown in the map of the Ordnance Survey. The coal is a pure anthracite, and is admirably adapted for smelting iron, for malting, lime burning, hop drying, and heating stoves. At present it is not largely used in this country for steam purposes, chiefly owing to the defective communications with the districts in which it is found. Recent railway extensions will, however, enable this coal to compete fairly in the markets of the world, and its extraordinary and valuable properties will now, unquestionably, become as well known and appreciated for ocean steam navigation and for locomotive and stationary engines in this country as they have long been in the United States of America. It is absolutely smokeless, makes little or no ash or clinker, evolves the most intense heat in combustion, and is unapproachable by any other description of coal for strength and durability.

From its great density and hardness, it is admirably adapted for long steam voyages. It stows in less compass than any other coal in the world, is unaffected by exposure to weather or climate, and is entirely free from all danger of spontaneous combustion or of explosion.

For iron-making purposes it is invaluable: the pig-iron smelted by this coal has long been locally celebrated, and now that through railway routes are coming into operation in the district, it is greatly in demand at high prices in Staffordshire and other parts where first class pig-iron is needed.

On this property are two well-built blast-furnaces, with six hot-air ovens, powerful blast-engine, fine excellent boilers, with chimney stack, &c., complete, foundry, fitting, blacksmiths' and carpenters' shops, offices, storehouses, manager's house, stabling, and about fifty workmen's houses, all let and bringing in rental of upwards of £300 per annum.

There are also fire-brick works, clay mill, and five other steam-engines, with boilers, pumps, &c., working on various parts of the property, together with trams, weighing machines, and many miles of above and underground rail and tram-roads; also tools, plant, &c., all in use and in working order.

The Rhydfosddu, &c., estates are of great value as ironstone properties, the ore being rich in percentage of iron, and excellent in quality, while the ground is highly productive.

This property is, moreover, so situated that the whole of the ironstone veins crop out on the hills on the east side of the vale of Tawe in such a position that for many years they will be got by open working. When it shall become necessary to drive underground, the River Tawe being 500 or 600 ft. below the top of these hills will afford free drainage for an inexhaustible tract of minerals.

The main line of the Neath and Brecon Railway intersects the Onllwyn tract; and the Swansea Vale and Neath and Brecon Junction Railway runs through the Rhydfosddu and other properties. These railways have been promoted by the landowners in the district, and the development of these important mineral estates has been carefully kept in view in laying out the lines; the capital, consequently, which must otherwise have been expended in opening these tracts will be greatly lessened.

The Neath and Brecon Railway was opened through for goods and mineral traffic on Sept. 13, 1866. The Swansea Vale and Neath and Brecon Junction is being pushed on to the utmost, and it is anticipated that the whole system will be completed throughout during the present year.

Before the completion of the railways these estates had no means of communication other than a defective and expensive tramroad five miles in length, and supplies of limestone for fluxing purposes, &c., were only obtainable by similar means. By the completion of the Neath and Brecon line the cost of this important material will be reduced between 30 and 40 per cent.

The present owners of the property have agreed to accept £31,500 as the purchase-money, including the whole of the buildings, erections, houses, engines, machinery, and fixed and movable plant; payable one-third in cash, one-third in shares of the company, with one-half (that is, £5 each paid-up) and one-third in debentures of the company, having three years to run, and bearing interest at 5 per cent. per annum. It is anticipated there will be no difficulty in renewing these, if desirable.

It is proposed to call upon the shares issued to the public, at such intervals as may be requisite, £5 per share, thus making them paid-up to an equal amount with the shares taken by the vendors in part payment of purchase-money as above.

The present furnaces are equal to a weekly make of 140 tons of pig-iron, and it is proposed to lay out £5000 in extending the colliery openings sufficiently to supply 200 tons of coal per day for sale, the extraction having hitherto been confined to the purposes of the ironworks.

The cost and production will then stand thus:—

COST.

Purchase-money in cash and shares, exclusive of debentures, for which see below..... £21,000 0 0

Amount required for extension of collieries..... 6,000 0 0

Working capital..... 3,500 0 0

Amount of share capital to be called up at £5 per share..... £30,000 0 0

Amount of debentures, interest on which at 5 per cent. is deducted from profits, as below, £10,500..... £20,000 0 0

PRODUCTION.

140 tons pig-iron weekly, say 7000 per annum, at 7s. 6d. per ton profit..... £2625 0 0

200 tons coal per day, say 300 days per annum, at 2s. per ton profit..... 6000 0 0

Total..... £8625 0 0

Less interest at 5 per cent. on £10,500 debentures, as above..... 525 0 0

Yearly profits..... £8100 0 0

Thus showing a profit of upwards of 25 per cent. per annum, without taking into account the income from rents and other sources.

These calculations have been carefully considered and verified by practical ironmasters and mining engineers personally acquainted with the locality, and the directors are satisfied that the above estimate of profits is considerably understated.

No promotion money will be paid, nor any expenses incurred, except those which are strictly legal and necessary.

If no allotment be made, the money will be returned in full.

Prospectuses and forms of application may be obtained of any of the directors, or of the bankers, solicitors, auditors, or brokers of the company; and abstracts of the leases, with plans and further particulars of the property, and copies of the Memorandum and Articles of Association may be seen on application to the Secretary, at the company's offices, No. 2, Mount-street, Swansea; or at the offices of Mr. J. R. Cobb, Solicitor, Brecon; or of G. B. MURLY, Esq., Langport, Somersetshire, Nov., 1866.

TO MINE, SLATE QUARRY, AND RAILWAY COMPANY.—CAPT. C. WILLIAMS IS NOW OPEN TO UNDERTAKE ALL KINDS OF CONTRACTS, such as DRIVING LEVELS, SINKING SHAFTS, CONSTRUCTING WATER COURSES, CANALS, TRAMWAYS, &c., and ERECTING ALL SORTS OF MACHINERY FOR MINING AND OTHER PURPOSES, having on hand at all times a first-class staff of miners and machinists, who will proceed to any part of the world upon the shortest notice.

N.B.—In all cases 30 per cent. will be left in hand until the work is complete. Tyn-y-Wern, Taliesin, via Shrewsbury.

MR CHARLES BAWDEN, POLDICE, ST. DAY, SCORRIER, CORNWALL, begs respectfully to inform his friends and the public that, in addition to his Mining Business, he has commenced that of an AUCTIONEER and APPRAISER, and any sales entrusted to him shall receive his careful attention. Mr. CHARLES BAWDEN'S long connection with the Mines of Devon and Cornwall, in the purchase and sale of materials, specially qualifies him for the valuation of all kinds of Mining Machinery, &c.

Now ready, price 6s., by post 6s. 6d.

THE MINES OF CORNWALL AND DEVON: STATISTICS AND OBSERVATIONS, for 1865.

By THOMAS SPARGO, Mining Engineer, Stock and Sharebroker, Gresham House, Old Broad-street, London, E.C.

LETTERS DIARIES, 1867, are PUBLISHED in over ONE HUNDRED DIFFERENT FORMS, at prices ranging from 6d. to 4s. each. All booksellers keep them, and will supply catalogues gratis.

In the Court of the Vice-Warden of the Stannaries.

Stannaries of Cornwall.

IN the MATTER of the COMPANIES ACT, 1862, and of the WHEAL WILLIAM MINING COMPANY. The Registrar of this Court has appointed the 18th day of January next, at Eleven o'clock in the forenoon, at the Registrar's Office, Truro, to SETTLE the LIST of CONTRIBUTORIES of the ABOVE-NAMED COMPANY, now made out and deposited at the said office. WM. MICHELL, Registrar of the said Court. Dated this 22d day of December, 1866.

In the Court of the Vice-Warden of the Stannaries.

Stannaries of Cornwall.

IN the MATTER of the COMPANIES ACT, 1862, and of the WHEAL SITHNEY AND CARNMEAL UNITED MINING COMPANY.—The Registrar of this Court has appointed Tuesday, the 15th day of January next, at Eleven o'clock in the forenoon, at the Registrar's Office, in Truro, to SETTLE the LIST of CONTRIBUTORIES of the ABOVE-NAMED COMPANY, now made out and deposited at the said office. WM. MICHELL, Registrar of the said Court. Dated the 22d day of December, 1866.

In the Court of the Vice-Warden of the Stannaries.

Stannaries of Cornwall.

IN the MATTER of the COMPANIES ACT, 1862, and in the MATTER of the GODOLPHIN HILL MINING COMPANY (LIMITED).—By an order made by his Honour the Vice-Warden of the Stannaries in the above matter, dated the 20th day of December inst., on the petition of William Cock Vivian and Joseph Vivian, being respectively creditors and claimants of the said company, it was ordered that the said GODOLPHIN HILL MINING COMPANY (LIMITED) should be WOUND-UP by this Court, under the provisions of the Companies Act, 1862; and it was ordered, on the application of the petitioners, that Henry Windham Pettis, of No. 16, Gresham-street, in the City of London, accountant, should be and he was thereby appointed provisional official liquidator of the said company, subject to objection by any creditor within ten days after the date of the first public advertisement of the said order.

TREHERNE AND WOLFESEMAN, 75, Aldermanbury (Solicitors for the Petitioners).

CARLYON AND PAUL, Truro (Agents of the said Solicitors).

Dated 24th December, 1866.

In the Court of the Vice-Warden of the Stannaries.

Stannaries of Cornwall.

IN the MATTER of the COMPANIES ACT, 1862, and of the WHEAL WILLIAM MINING COMPANY.—TO BE SOLD, under the direction of the Registrar of the said Court, BY PUBLIC AUCTION, on Tuesday, the 8th day of January next, at Eleven o'clock in the forenoon, at WHEAL WILLIAM MINE, in the parish of Luxall, within the said Stannaries, either together or in lots, the MINE SETTS or GRANTS of the said company, and the undetermined MINING MACHINERY and MATERIALS, viz.:—

ONE 22 in. ROTARY ENGINE and fly-wheel. ONE BOILER, 8 tons.

Iron stamps axle, with 16 heads complete; stamps, drags, round buddle and gear connected; new stamps, guides, heads, 2 bobs, 30 fms. iron rods, pulleys and stands, 6 ft. 11 in. pulps, 11 ft. 10 in. working barrel, 1 ft. 10 in. door-piece and door, 1 ft. 10 in. windbore, bucket rods and buckets, flange pins, 60 fms. whim chain, 4 whim kibbles, 1 poppet head over shaft, 12 fms. of footway, 60 fms. iron work connected with same, 40 fms. launders of various sizes, saw-pit and shed, plates and glands for capstan bench, 4 new stamp heads, 10 fms. landing barrow, two iron buckets, a quantity of new and old iron and tin ore, and various other articles in general use in mines.

The mine, machinery, &c., may be inspected on application to Mr. TRELEAVES, the bailiff in charge thereof.

HODGE, HOCKIN, AND MARRACK, Solicitors, Truro.

Dated Registrar's Office, December 24th, 1866.

In the Court of the Vice-Warden of the Stannaries.

Stannaries of Cornwall.

IN the MATTER of the COMPANIES ACT, 1862, and of the SOUTH CARADON WHEAL HOOPER MINING COMPANY.—By an Order made by His Honour the Vice-Warden of the Stannaries in the above matter, dated the 24th day of December inst., on the petition of John Bayly, of Plymouth, within the Stannaries of Devon, creditor of the said company, it was ordered that the said SOUTH CARADON WHEAL HOOPER MINING COMPANY should be WOUND-UP by this Court under the provisions of the Companies Act, 1862.

SAMUEL CATER, Plymouth, Devon (Solicitor for the Petitioner).

F. HEARLE COCK, Truro, Cornwall (Agent of the said Solicitor).

Dated Truro, Dec. 26, 1866.

In the Court of the Vice-Warden of the Stannaries.

Stannaries of Cornwall.

IN the MATTER of the COMPANIES ACT, 1862, and of the WHEAL LUDCOTT AND WREY CONSOLS MINING COMPANY.—Notice is hereby given, that a PETITION for the WINDING-UP of the ABOVE-NAMED COMPANY by the Court was, on the 23d day of December inst., presented to the Vice-Warden of the Stannaries, by Joseph Sugden, a contributory and also a creditor of the said company, and that the said petition is directed to be heard before the Vice-Warden, at No. 14, Thurlow-square, Brompton, in the county of Middlesex, on Monday, the 7th day of January next, at Twelve o'clock at noon.

Any contributory or creditor of the company may appear at the hearing and oppose the same, provided he has given at least two clear days' notice to the petitioner or his solicitor of his intention to do so, such notice to be forthwith forwarded to P. P. Smith, Esq., secretary of the Vice-Warden, Truro.

Every such contributory or creditor is entitled to a copy of the petition and affidavit verifying the same, from the petitioner or his solicitor, within 24 hours after requiring the same, on payment of the regulated charge per folio.

Affidavits intended to be used at the hearing, in opposition to the petition, must be filed at the Registrar's Office, Truro, on or before Friday, the 4th day of January next, and notice thereof must at the same time be given to the petitioner or his solicitor.

JOHN GILBERT CHILCOTT, Truro (Solicitor for the Petitioner).

Dated Truro, the 27th day of December, 1866.

In the Court of the Vice-Warden of the Stannaries.

Stannaries of Cornwall.

PURSUANT to a Decree made in the Cause of May and Another v. Middleton, the CREDITORS in respect of TREWEW WHEAL ROSE MINE, in the parishes of Cranstock and Newlyn, within the said Stannaries, are REQUIRED, on or before Wednesday, the 9th day of January next, to COME IN and PAY THEIR DEBTS before the Registrar of the said Court in Truro, or in default thereof they will be summarily excluded from the benefit of the said decree.—Dated Registrar's Office, Truro, Dec. 26, 1866.

TO COLLIERY PROPRIETORS AND OTHERS.

MESSRS. J. AND T. HOLLAND have received instructions from the Gresley Wood and Swadlinote Colliery Company (Limited) to SELL, BY AUCTION, at the Granville Arms Hotel, Swadlinote, in the county of Derby, on Wednesday, Jan. 16, 1867, at One o'clock precisely, either as a whole in One Lot, or in the following or such other lots as may be determined upon at the time of the sale.

Lot 1 will consist of all that VALUABLE ESTATE known as the GRESLEY WOOD COLLIERY, situate on the turnpike-road from Burton to Swadlinote, and within about four miles of Burton-upon-Trent, and about one mile from the Midland Railway, on the Leicester and Burton line. The estate comprises the valuable colliery, and 50 A. 3 R. 16 P. or thereabouts of freehold wood land, with valuable seams of coal thereunder, with the important lease held by the company, and including the whole of the BUILDINGS, the costly MACHINERY, and fixed PLANT, together with the gas works adjoining, and also a brick-yard, with all necessary fixed plant, the whole having communication by a branch line with the Midland Railway, and thus having direct access to all parts of the kingdom. Should this lot not be sold, the estate will be sold in the following or other lots.

Lot 2.—6 A. 2 R. 30 P. of FREEHOLD LAND, together with the COLLIERY PLANT and MINERALS under the whole of the estate, including the BUILDINGS, MACHINERY, fixed PLANT, GAS WORKS, and the leasehold portion held by the company, and also the junction and branch railway communicating with the Midland line.

Lot 3.—44 A. 0 R. 26 P. of VALUABLE FREEHOLD WOODLAND, with the FIRE and OTHER CLAYS thereunder to a depth of 100 yards from the surface thereof, the whole having an extensive frontage to the turnpike-road leading from Burton to Swadlinote. Should this lot not be sold, the estate will then be sold in the following lots:—

Lot 4.—A VALUABLE PLOT of FREEHOLD BUILDING LAND, containing 2 A. 3 R. 22 P., with an excellent frontage to the road leading from Burton to Swadlinote, of 277 yards, thereon.

Lot 5.—A similar plot adjoining Lot 4, containing 3 A. 0 R. 30 P., with an excellent frontage to the before-mentioned turnpike-road of 267 yards or thereabouts.

Lot 6.—6 A. 2 R. 37 P. of VALUABLE FREEHOLD LAND, including half the road between Lots 6 and 7, with the BRICK-YARD, KILNS, and fixed PLANT thereon.

Lot 7.—7 A. 2 R. 29 P. of VALUABLE FREEHOLD LAND, including half the road between Lots 6 and 7.

Lot 8.—5 A. 1 R. 30 P. of VALUABLE FREEHOLD LAND, including half the road between Lots 8 and 9.

Lot 9.—8 A. 3 R. 14 P. of VALUABLE FREEHOLD LAND, including half the road between Lots 8 and 9.

Lot 10.—2 A. 3 R. 14 P. of VALUABLE FREEHOLD LAND, including half the road between Lots 10 and 11.

Lot 11.—6 A. 2 R. 10 P. of VALUABLE FREEHOLD LAND, including half the road between Lots 10 and 11.

The minerals under Lots 4, 5, 6, 7, 8, 9, 10, and 11 are reserved, but the whole of these lots will be sold, to include the fire and other clay thereunder to the depth of 100 yards from the surface thereof.

The timber and poles to be taken at a valuation, in the usual way.

Full particulars, with plans of the estate, will be ready on the 1st proximo, and may be obtained of the Auctioneers, Leicester; Messrs. STONE, PAGET, and BILSON, solicitors, Leicester; Messrs. SHENTON and BAKER, architects; or Messrs. MACKENZIE, TREHERNE, and TRINDER, 77, Gresham House, Old Broad-street, London, E.C.

In Chancery.

IN the MATTER of the RHOS HALL IRON COMPANY (LIMITED), TIPTON, STAFFORDSHIRE.

THE IMPORTANT FREEHOLD PROPERTY, known as the TIPTON IRONWORKS, together with the MINES and the VALUABLE FIXED PLANT and MACHINERY, in excellent working condition.

MESSRS. PRICE AND CLARK WILL SELL, at the Hen and Chickens Hotel, Birmingham, on the 24th day of January, 1867, at Twelve for One o'clock, in One Lot, pursuant to the order of the Court of Chancery made in the said matter, with the approval of the Master of the Rolls, the VALUABLE FREEHOLD PROPERTY, known as the TIPTON IRONWORKS, in the parish of TIPTON, in the county of STAFFORD, containing, by estimation, 5 A. 2 R. 5 P., or thereabouts, and the MINES and MINERALS, containing 4 A. 2 R. 26 P., or thereabouts, under part of the surface (except the surface clay under part of such land). Together with the FIXED PLANT and MACHINERY, in excellent working condition.

The works have a frontage of about 600 ft. to the Birmingham Canal, also a boat dock of 150 ft. in length, and in close proximity to two railway stations, and comprise HOOP and SLITTING MILLS, cutters' shop, smithy, foundry, spacious open buildings with slated roofs, stabling, offices, managers' residences, &c. There are TWO BLAST FURNACES, measuring respectively 51 feet and 49 feet in height; three hot-air stoves, TWENTY-THREE PUDDLERS' FURNACES, SIX MILL FURNACES, several lofty chimney-shafts, FIVE STEAM-ENGINES, TWELVE STEAM-BOILERS, a 16-inch train of two pairs of forge bar and billet rolls; a boiler-plate train, with two pairs of rolls; one pair of No. 2 forge, two trains of 10 and 8-inch hoop rolls, a pair of 12 and 13-inch hoop hard rolls, a pair of 16-inch hard rolls; a 16-inch bar-train for slitting-mill, with all the necessary gearing; powerful turning lathe, fittings of gasworks, FOUR HUNDRED DOUBLE YARDS of IRON RAILS, a large area of iron-floor plates, and numerous appliances adapted for the efficient conduct of the works.

The premises may be viewed, and particulars had gratis at the place of sale of Messrs. RUTTER and NEVE, solicitors, Wolverhampton; and in London of GEORGE SCOTT, Esq., the official liquidator, 2, Bond-court, Walbrook; of Messrs. HOLLINGS, SHARP, and ULLITHORNE, solicitors, Field-court, Gray's Inn; and at the offices of Messrs. PRICE AND CLARK, 48, Chancery-lane.

ROBERT MARSHALL, Chief Clerk.

HOLLINGS, SHARP, AND ULLITHORNE, Gray's Inn, Agents for Rutter and Neve, Wolverhampton (Solicitors for Official Liquidator).

Dated this 19th day of December, 1866.

IMPORTANT SALE.

GELLIA-CADOXTON COLLIERY.

MR. THOMAS THOMAS WILL SELL, BY AUCTION, at the Castle Hotel, Neath, on Tuesday, January 15, 1867, at Four o'clock in the afternoon, subject to conditions of sale to be then produced, all that desirable LEASEHOLD COLLIERY, known as the GELLIA-CADOXTON COLLIERY, situate near the town of NEATH, in the county of GLAMORGAN, with the MINES and MINERALS comprised in the several leases granted to the Dynevor Coal Company by John Dilwyn Llewelyn, Esq., Mr. John Jenkin and another, William Griffiths Jones, Esq., and the Priory Coal Company, comprising in the whole about 638 acres, together with the ENGINES, PLANT, and MACHINERY belonging thereto.

Full particulars of the several terms, rents, royalties, &c., under which the property is held, may be obtained on application to Messrs. NEWMAN, LYON, and NEWMAN, Solicitors, 7, King's Bench Walk, Temple, London, and Yeovil, Somerset; JAMES KEMPTHORNE, Esq., Solicitor, Neath; or to the Auctioneer, Neath.

ST. TEATH, NEAR CAMELFORD, CORNWALL.

TO BE SOLD, BY AUCTION, at the New White Hart, St. Teath, on the 17th of January, 1867, at Two o'clock in the afternoon, the FREEHOLD and INHERITANCE of the LOWER SAFFENY ESTATE, containing about NINETEEN ACRES of excellent LAND, with convenient FARM and other HOUSES.

The celebrated Old Treburget Silver-lead Mine is within 300 fathoms of this estate, the lodes of which are believed to pass through it. Old Treburget yielded a profit of £150,000 to former adventurers. The silver-lead ores produced on an average 300 ozs. of silver to the ton.

This estate, being in a sheltered situation, with thriving young timber and a southern aspect, may be made a pleasant residential property, and is now a valuable investment, either as an agricultural or mineral property.

For viewing, apply to Mr. JOHN BAST, St. Teath; and for further particulars to Mr. W. D. KISS, Solicitor, Camelford.—Dec. 18, 1866.

Two-thirds of the purchase-money may remain on mortgage at 4 per cent., if desired.

IMPORTANT IRONWORKS IN MONMOUTHSHIRE FOR SALE.

THE CWMCELYN, BLAINA, AND COALBROOK VALE IRONWORKS, BRAND C D C, TO BE SOLD, BY AUCTION, at the Auction Mart, London, at the end of February, 1867, at One o'clock, unless previously sold by private contract.

These works comprise ONE THOUSAND ACRES of MINERAL PROPERTY, of which 400 are freehold, BLAST FURNACES, BOILERS, and MILLS; FISH DRIES, ENGINEERING SHOPS, and TIMBER SAW MILLS; all connected by a complete system of railways; together with LOCOMOTIVE ENGINES, extensive ROLLING STOCK, and every other requisite for carrying on the manufacture of iron. The forges and mills have averaged for six years a make of 39,000 tons of finished iron.

There is a population of 7000 to 8000 attached to the works, with ample cottage accommodation, including about 1000 houses belonging to the property.

The minerals are well opened and drained, and in quantity and quality equal to any in the district; the coal for steam purposes is unsurpassed.

The brand, or make, of the iron is well known in Great Britain, on the Continent, the United States, and the Colonies.

The works are distant twenty miles from Newport, and are intersected by the Monmouthshire Railway, affording a direct transit to the shipping port, and also to the inland markets.

The property is well worthy the attention of capitalists, who are invited to treat for the purchase by private contract.

The property may be viewed, and particulars with every information obtained, by application to Mr. F. LEVICK, Blaina Ironworks, near Newport, Monmouthshire; Messrs. QUILLER, BALL, and Co., 3, Moorgate-street, London; and Messrs. SECRETAN, WOODHOUSE, and COLBORNE, Newport, Monmouthshire.

TO CONTRACTORS AND OTHERS.

TO BE SOLD, BY PRIVATE TREATY, the undermentioned MATERIALS and PLANT, lying on a LINE of RAILWAY RECENTLY COMPLETED:—

6000 PERMANENT SLEEPERS—LARCH.

1100 TEMPORARY SLEEPERS.

5 miles PERMANENT FENCING—LARCH.

20 RUNNERS FOR TIP.

285 PLANKS.

29 HORSEING BOXES.

44 SCAFFOLD POLES.

A number of TRESTLES.

1 set of SHEAR LEGS.

97 EARTH WAGONS, 40 of them quite new.

10 SPARE WHEELS, and 5 AXLES.

A quantity of SAWN TIMBER for wagon building.

137 NAVY BARROWS; a lot of NEW WHEELS for same.

4 DOBBIN CARTS.

1 SAWING MACHINE

NICHOLLS, MATHEWS, AND CO., ENGINEERS,
BEDFORD IRONWORKS, TAVISTOCK.
MANUFACTURERS OF STEAM ENGINES OF EVERY DESCRIPTION, made on the BEST and NEWEST PRINCIPLES. We beg more especially to call the attention of the public to the MANUFACTURE of our BOILERS, which have been tested by most of our leading engineers. PUMP WORK CASTINGS of EVERY DESCRIPTION, both of brass and iron. HAMMERED IRON and HEAVY SHAFTS of ANY SIZE. CHAINS made of the best iron, and warranted. MINERS' TOOLS and RAILWAY WORK of EVERY DESCRIPTION. ALL ORDERS FOR ABROAD RECEIVE their BEST ATTENTION.
NICHOLLS, MATHEWS, AND CO. have had 20 years' experience in supplying machinery to foreign mines, and selecting experienced workmen to erect the same, where required.
Messrs. NICHOLLS, MATHEWS, AND CO. have always a LARGE STOCK of SECOND-HAND MINE MATERIALS in stock, and at moderate prices.

SANDYS, VIVIAN, AND CO.,
COPPER HOUSE FOUNDRY, HAYLE, CORNWALL,
ENGINEERS, IRON AND BRASS FOUNDERS,
MANUFACTURERS OF PUMPING ENGINES for WATER-WORKS, MINING MACHINERY, MATERIALS, and TOOLS of every description.
Foreign mines supplied on the best terms, and at the shortest notice. Second-hand Mining Machinery and Pitwork in Stock; also a new 4 and a 2-horse power high-pressure vertical engines, with boilers, and a second-hand 19-inch whelm engine, condensing.

BICKFORD'S PATENT SAFETY-FUSE OBTAINED the PRIZE MEDALS at the ROYAL EXHIBITION of 1861, at the INTERNATIONAL EXHIBITION of 1862, in London, and at the IMPERIAL EXPOSITION held in Paris, in 1865.



BICKFORD, SMITH, AND CO.,
of TUCKINGMILL, CORNWALL, MANUFACTURERS OF PATENT SAFETY-FUSE, having been informed that the name of their firm has been attached to fuse not of their manufacture, beg to call the attention of the trade and public to the following announcement:—
EVERY COIL OF FUSE MANUFACTURED by them has TWO SEPARATE THREADS PASSING THROUGH the COLUMN of GUNPOWDER, and BICKFORD, SMITH, AND CO. CLAIM SUCH TWO SEPARATE THREADS as THEIR TRADE MARK.

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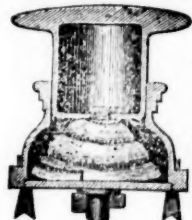


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PRODUCES NO SMOKE, and having been further REDUCED in PRICE is now by far the CHEAPEST as well as the SAFEST material which can be used in any description of mining or quarrying work.

Sample cases, together with every information, may be obtained from—
THOMAS PRENTICE AND CO.,
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AGENT—Mr. Thorne.

GUN-COTTON has been constantly used with great success in the tunnel of the Aberdeen Water-Works, lately opened by Her Most Gracious Majesty the Queen.

THOMAS TURTON AND SONS,
MANUFACTURERS OF

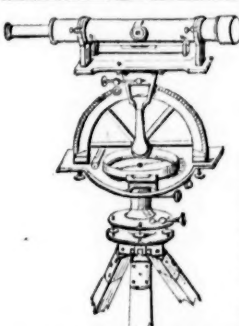


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DOUBLE SHEAR STEEL, FILES MARKED
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SHEAF WORKS AND SPRING WORKS, SHEFFIELD.
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Where the largest stock of steel, files, tools, &c., may be selected from.



A. JEFFERY,
MATHEMATICAL INSTRUMENT
MAKER,
CAMBORNE, CORNWALL.

TO MINE MANAGERS, AGENTS, AND
SURVEYORS.

GENTLEMEN,—I most respectfully beg to
inform you that my Manufacture for Mine
Surveying and Drawing Instruments is now
in full operation, and THEODOLITES, DIALS,
LEVELS, MEASURING CHAINS, ENGINE COUNT-
ERS, ASSAY SCALES and WEIGHTS, PROTRACT-
ORS, CASES OF DRAWING INSTRUMENTS, and
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STRUMENTS are kept in stock or made to
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Having been confined for several years ex-
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Mine Surveying Instruments—which profes-
sionals I trust I have to some degree master-
ed—both practically and theoretically—I confidently venture to solicit an inspection
of my manufactures, which cannot be surpassed for accuracy and general good
quality by any firm either in the metropolis or the provinces.

All kinds of repairs and alterations made to instruments.
All work executed under my own direct supervision, and none but experienced
assistants employed.

All work guaranteed as first-class for quality and accuracy, and, if found
otherwise, forfeited. Soliciting your kind favours,
I remain, Gentlemen, yours obediently,
Camborne, July 28, 1866. A. JEFFERY.

**CREASE'S NEW AND IMPROVED PATENT BORING
MACHINE.**—In consequence of the various and IMPORTANT IM-
PROVEMENTS that an experience of several years has enabled the inventor to
introduce into these machines, he can with the most perfect confidence re-
commend them for their increased DURABILITY, SIMPLICITY, ECONOMY,
and SPEED to be attained by their adoption in DRIVING LEVELS or DRIFTS.
The inventor has made arrangements to supply them in any quantity, with
warranty. Orders executed according to their date of priority.
Address, EDWARD S. CREASE, Tavistock, Devon.

Now ready, roan tuck, gilt edges, price 6s. (postage 4d.).
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CONTRACTOR'S POCKET-BOOK** for 1867. Considerably improved,
with many additions. Besides the usual vast mass of rules, formulae, tables,
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Now ready, on a large sheet for hanging, price 2s., or folded for the desk or
pocket, price 2s. 6d., postage 2d.

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Standing Orders, Railway Construction Regulations, Mensuration, Data and
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about 30 inches by 25 inches in extent. . . . Its character may be expressed
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No. XIII, January, price 5s.

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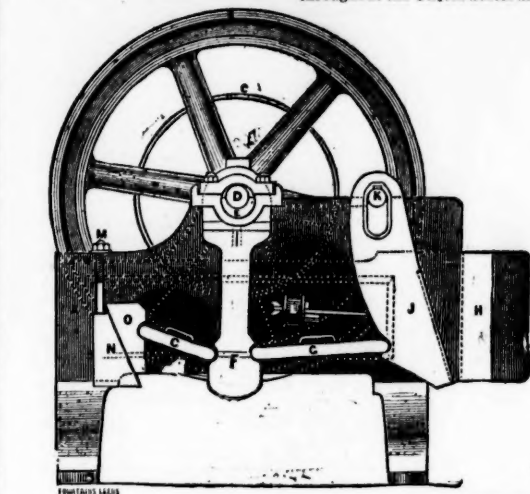
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about 20 lbs. weight, chilled cast-iron, broke off, and was crushed in the jaws of
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JOHN LANCASTER.

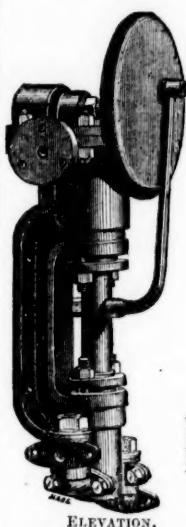
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GIFFARD'S PATENT INJECTOR COMPLETELY SUPERSEDED BY
THE NEW PATENT DONKEY STEAM PUMP



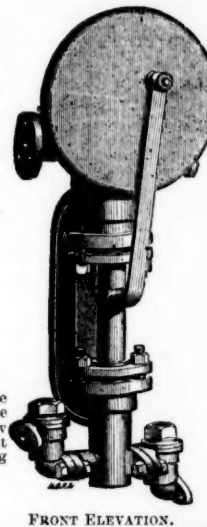
ELEVATION.

[SPECIFICATION.]
This Pump is constructed on an entirely novel and simple principle, there being only a crank-shaft
and fly-wheel of small size, the slide-valve being worked inside the steam chest, by means of a steel
crank and friction roller, thus dispensing with eccentric rod, and straps. All the working parts are
made of steel, hardened and polished. The cylinder and pump are in one casting, and bored through-
out the body of the pump as well as the stuffing-box. The pump-ram is of the best gun-metal, being
cast in one piece with the piston and piston-rod, and fitted accurately to the bored body of the pump,
thus ensuring a nearly perfect vacuum in pumping. The stuffing-box glands are also of gun-metal
polished. The valves and boxes are of the best gun-metal, the valves being of the spherical descrip-
tion, the covers fitted with brass cages, and the joints faced metal to metal. The slide-valve is of
hard bell-metal. The steam-chest, with cylinder end, is in one piece, and may be removed without
disturbing either steam or exhaust pipes. The whole engine may be taken to pieces and put together
under steam in fifteen minutes, without disturbing any pipes whatever.

Size.	Ram.	Stroke.	Approx. h.p.	Approx. gal.	Price of Giffard's Injector.
No. 4	in.	in.	boiler supplied.	thrown p. hour.	In brass.
5	1 1/2	3	15	280	£10 10
6	1 3/4	3	22	350	12 12
7	2	3	30	500	14 14
8	2 1/4	4	40	700	17 0
9	2 1/2	5 1/2	55	900	19 10
10	2 3/4	6 1/2	75	1150	22 10
11	3	7 1/2	90	1400	25 10
12	3 1/4	8 1/2	110	1700	28 10
13	3 1/2	9 1/2	129	2000	31 10
N.B.	—	—	—	—	—

Giffard's injector will not force water over 120° Fahr., while these pumps possess the great advantage
of being able to pump boiling water. Giffard's injector will not draw water over 6 ft. deep, while these
pumps draw water 15 ft., and by using one size larger than required for forcing the quantity will draw
30 ft. deep. These pumps begin to work at 15 lbs. per square inch; to work at a lower pressure the next
larger size must be used. Sizes up to No. 10 kept in stock. Larger sizes, and special pumps for throwing
water into tanks, or as fire-engines, can be made in a few days on application to the undersigned.

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This patent pump is the MOST EFFICIENT in existence for LIFTING
ANY QUANTITY of WATER from ANY DEPTH. One lifting from a depth
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Communications to Mr. Bastier, the patentee, to be sent to the same address.

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petition with neighbouring companies, the creation of new shares, the state of
the Money Market as affecting the renewal of debentures, and other considera-
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BRITISH DIVIDEND MINES.

Shares.	Mines.	Paid.	Last Pr.	Business.	Total divs.	Per share.	Last paid.
1500	Alderley Edge, c. Cheshire	10 0 0	—	—	8 7 8	0 10 0	Aug. 1866
200	Batallack, c. St. John	10 0 0	—	—	488 15 0	0 10 0	May 1866
10000	British Slate Company	9 0 0	—	—	9 per cent.	—	Sept. 1866
4000	Brookwood, c. Devon	1 11 0	—	—	0 5 0	0 2 6	Sept. 1866
1000	Brookwood, c. Devon	12 0 0	—	—	8 7 8	0 10 0	Aug. 1866
6400	Cashwell, c. Cumberland	2 10 0	—	—	0 1 6	0 1 6	Aug. 1866
916	Cargill, s. Newlyn	15 5 0	—	—	13 15 0	0 10 0	Feb. 1866
867	Cwm Eirin, c. Cardiganshire	7 10 0	—	—	20 18 0	0 10 0	Oct. 1866
128	Cwmystwith, c. Cardiganshire	60 0 0	—	—	572 10 0	0 10 0	Dec. 1866
280	Derwent Mines, s. Durham	300 0 0	—	—	167 0 0	0 10 0	Oct. 1866
1024	Devon Gr. Consols, c. Tavistock	1 0 0	410	—	1042 0 0	0 10 0	Nov. 1866
358	Dolcoath, c. Camborne	128 17 6	—	—	818 10 0	0 10 0	Dec. 1866
6144	East Caradon, c. St. Cleer	2 14 6	—	—	14 5 6	0 10 0	Aug. 1866
300	East Darren, c. Cardiganshire	32 0 0	—	—	136 10 0	0 10 0	Nov. 1866
128	East Pool, c. Pool, Illogan	24 5 0	—	—	387 10 0	0 10 0	Nov. 1866
5000	East Rosewarne, c. f. Gwinnar	2 15 0	—	—	0 10 0	0 1 6	Jan. 1866
1206	East Wheal Lovell, c. Wendron	2 9 0	—	—	2 7 0	0 7 6	May 1866
280	Foxdale, c. Isle of Man	25 0 0	—	—	69 0 0	0 10 0	Oct. 1866
5000	Frank Mills, c. Christow	3 18 6	—	—	3 5 6	0 5 0	Feb. 1866
15000	Great Laxey, c. Isle of Man	4 0 0	17 1/2	—	5 15 0	0 10 0	Dec. 1866
5908	Great Wheal Vor, c. f. Heistons	40 0 0	14 1/2	—	10 17 6	0 7 6	Dec. 1866
1024	Herodfoot, c. near Liskeard	8 10 0	32	—	39 0 0	0 10 0	Oct. 1866
6000	Hingston Down, c. f. Heistons	5 10 6	—	—	0 10 0	0 5 0	April 1866
400	Lisburne, c. Cardiganshire, Wales	18 15 0	—	—	488 10 0	0 10 0	Nov. 1866
2000	Marke Valley, c. Cardigan	4 10 0	—	—	8 17 6	0 10 0	Oct. 1866
3000	Miners Boundary, c. Wrexham	1 0 0	—	—	0 13 0	0 3 0	Mar. 1866
1800	Miners Mining Co., c. Wrexham	25 0 0	—	—	205 8 0	0 10 0	Nov. 1866
20000	Mining Co. of Ireland, c. f. d.	7 0 0	19 1/2	—	0 7 5	0 7 5	Jan. 1866
40000	Mynydd Iron Ore	3 5 0	—	—	0 6 6	0 2 6	Mar. 1866
—	New Merrybent and Middleton	3 10 0	—	—	5 per cent.	—	Nov. 1866
800	Pant-y-Glen, s. St. John	20 0 0	—	—	10 per cent.	—	Nov. 1866
200	Parys Mines, c. Anglesey	50 0 0	—	—	157 10 0	0 10 0	Jan. 1866
1120	Providence, c. f. Llanidloes	10 6 7	—	—	81 17 6	0 10 0	Nov. 1866
612	South Caradon, c. St. Cleer	1 5 0	300	—	539 10 0	0 10 0	Nov. 1866
6000	South Darren, c. f. d.	3 6 6	—	—	0 5 6	0 2 6	Nov. 1866
6000	Tincroft, c. f. Pool, Illogan	9 0 0	11	—	18 6 0	0 5 0	Oct. 1866
3000	W. Chiverton, c. f. Perranzabuloe	10 0 0	54	—	15 7 6	0 2 0	Nov. 1866
400	West Wheal Seton, c. Camborne	47 10 0	120	—	464 14 0	0 2 0	Dec. 1866
512	Wheal Bassett, c. Illogan	5 2 6	70	—	622 0 0	0 10 0	Oct. 1866
1024	Wheal Friendship, c. Devon	20 0 0	—	—	300 10 0	0 10 0	Nov. 1866
4235	Wheal Killy, c. St. Agnes	2 4 6	—	—	2 19 0	0 1 6	May 1866
1024	Wheal Mary Ann, c. Menheniot	8 0 0	13	—	60 7 6	0 10 0	Dec. 1866
2000	Wheal Rose, c. St. John	—	—	—	0 1 0	0 10 0	Feb. 1866
396	Wheal Seton, c. f. Camborne	58 10 0	135	—	235 15 0	0 4 0	Dec. 1866
1040	Wheal Trelawny, c. Liskeard	5 17 0	8	—	54 5 6	0 5 0	Dec. 1866
17000	Wicklow, c. f. Wicklow	2 10 0	23	—	45 15 0	0 18 0	Oct. 1866

BRITISH MINES WITH DIVIDENDS IN ABEYANCE.

1200	Bryn Gwyn, c. Mold	9 0 0	—	—	3 3 6	0 13 6	Aug. 1865
2880	Clifford Amalgamated, c. Gwent	32 0 0	7	—	35 6 0	0 10 0	June 1865
1055	Cradock Moor, c. St. Cleer	11 5 0	—	—	7 12 0	0 4 0	June 1865
6000	East Carn Brea, c. Redruth	3 15 0	2 1/2	—	0 5 0	0 5 0	June 1865
6000	New Birch Tor and Vitrifer Cons.	1 6 6	—	—	0 13 0	0 2 0	Oct. 1865
6000	West Basset, c. Illogan	1 10 0	—	—	26 14 0	0 5 0	July 1865
1024	Wheal Exmouth, c. Christow	—	—	—	—	0 2 6	Oct. 1865

FOREIGN DIVIDEND MINES.

15000	Cape Copper Mining	7 0 0	8 1/2	—	2 12 6	0 10 0	April 1866
21500	East Indian Coal, Calcutta	10 0 0	—	—	1 5 4	0 2 0	Oct. 1866
24000	Fortuna, c. Spain	2 0 0	2 1/2	—	22 0 0	0 10 0	June 1866
20000	Gen. Mining Assoc., Nova Scotia	20 0 0	22	—	7 1/2	per cent. per annum.	—
10000	Gonnesa, c. f. d.	—	—	—	11 6 4	0 5 0	Jan. 1865
15000	Llanes, c. Spain	3 0 0	—	—	10 per cent.	—	Yearly
80000	Panuco, c. f. d.	3 0 0	—	—	4 3 2	1 3 6	Dec. 1866
10000	Pontgibaud, c. f. France	20 0 0	7 1/2	—	0 15 6	0 1 0	July 1866
100000	Port Phillip, c. f. d.	1 0 0	1 1/2	—	7 1/2	per cent.	Dec. 1866
12000	Scottish Australian Mining Co.	1 0 0	—	—	72 15 0	0 4 0	Dec. 1866
11000	St. John del Rey, Brazil	15 0 0	50	—	0 9 0	0 1 0	Jan. 1866
40000	Victoria (London) 25000 £1 pd.	—	—	—	0 19 6	0 2 6	May 1865
10000	West Canada Mining Company	1 0 0	—	—	—	—	—

FOREIGN MINES WITH DIVIDENDS IN ABEYANCE.

20000	Alten and Quenangen United, c.	4 10 0	—	—	4 5 0	0 15 0	Nov. 1865
10000	Australian, c. South Australia	7 7 6	—	—	0 2 0	0 1 0	June 1865
2400	Burra Burra, c. South Australia	5 0 0	—	—	325 0 0	0 10 0	Dec. 1864
10000	Cobre Copper Company, c. Cuba	40 10 0	1	—	101 0 0	0 5 0	Jan. 1866
10000	Copiapó Mining Company, Chile	16 10 0	—	—	6 18 0	0 10 0	Nov. 1862
100000	Don Pedro No. del Rey, Brazil	0 14 0	—	—	0 0 9	0 9 9	Dec. 1866
8000	English and Australian, c.	2 10 0	—	—	1 12 0	0 2 0	June 1864
60000	Kapunda Mining Co., Australia	1 0 0	—	—	0 12 0	0 1 0	June 1864
7927	Lusitania (Portugal), c.	3 0 0	—	—	7 0 0	0 3 0	June 1865
13851	Mariquita and New Granada	3 0 0	—	—	0 9 6	0 1 0	Jan. 1865
43174	United Mexican, c. Mexico	28 5 0	2	—	2 19 0	0 5 0	Sept. 1864
10000	Vancouver, c. f. d.	6 0 0	—	—	0 15 0	0 5 0	Nov. 1864
45000	Yandamam, c. S. A.	3 0 0	1 1/2	—	0 5 0	0 5 0	Aug. 1863

NON-DIVIDEND FOREIGN MINES.

Shares.	Mines.	Paid.	Last Pr.	Bus. done.	Last Coll.
35000	Alamillos, c. Spain	2 0 0	1 1/2	—	—
100000	Anglo-Brazilian, c. f. d.	0 10 0	—	—	—
40000	Britannia Silver-Lead Mines, France	1 12 0	—	—	—
25000	Capula, c. Mexico	3 0 0	—	—	—
30000	Chontales, c. f. d.	3 0 0	—	—	—
10000	Copiapó Smelting, Chile	1 0 0	—	—	—
300	Copper Miners' Co. of South Australia	150 £70 pd.	—	—	—
25000	East del Rey, c. Brazil	2 15 0	—	—	—
15000	El Chico Silver Mining and Reduction Company	4 10 0	—	—	—
8000	English and Canadian Mining Company	5 0 0	—	—	—
50000	Frontino and Bolivia, c. New Granada	1 13 6	3s.	1s. 3s.	—
10000	Great Northern, c. South Australia	1 11 6	—	—	—
10000	Great Barrier Land, Mining, &c., New Zealand	5 0 0	—	—	—
12500	Nerbuda Coal and Iron, c. f. d.	1 15 0	—	—	—
50000	Nova Scotia Land and Gold	1 10 0	—	—	—
15000	Orea, c. New Zealand	1 10 0	—	—	—
6000	Peel River Land and Mineral	100 0 0	—	—	—
30000	Pestarena, c. f. d.	2 0 0	2 1/2	1 1/2	—
17000	Quebrada, c. Venezuela	10 0 0	—	—	—
10178	Rhenish Consolidated, c. f. d.	—	—	—	—
50000	Rossa Grande, c. Brazil	0 7 6	—	—	—
15000	San Pedro del Monte, c. Mexico	4 0 0	—	—	—
10000	San Roque, c. Spain	5 0 0	—	—	—
1000	Schlossberg Colliery, c. f. d.	20 0 0	—	—	—
20000	Val Antigua, c. f. d.	0 17 6	—	—	—
6000	Val Sassam, c. f. d.	6 0 0	—	—	—
5000	Valgodemard Mining Company	20 0 0	—	—	—
50000	Vallanzasca, c. Italy	0 15 0	—	—	—
45000	Victor Emanuel, c. Italy	1 0 0	—	—	—
20000	Washoe, c. f. d.	5 0 0	—	—	—
80000	Worthing, c. South Australia	1 0 0	—	—	—
75000	Yorke Peninsula, South Australia	1 0 0	—	—	—

BANKS AND FINANCIAL COMPANIES.

Shares.	Banks.	Paid.	Last Pr.	Bus. done.	Last Coll.
40000	Alliance	25 0 0	19	—	—
40000	Australian Mort. Land and Finance	5 0 0	5	—	—
20000	Australasian	40 0 0	83	—	—
10000	Bank of Egypt	25 0 0	31	—	—
50000	Bank of New Zealand	10 0 0	18 1/2	—	—
25000	Bank of Otago	10 0 0	6	—	—
15000	Bank of Queensland	25 0 0	39	—	—
15000	Bank of Victoria, Australia	25 0 0	39	—	—
50000	Brazilian and Portuguese	10 0 0	9	—	—
9515	Canada Company	2 10 0	80	—	—
50 000	Canadian Loan and Investment	2 10 0	1 1/2	—	—
4 000	Chart. Bank India, Aust. & China	20 0 0	16 1/2	—	—
30000	Chart. Merc. India, Lond. & China	25 0 0	35	—	—
50000	City	10 0 0	16	—	—
20000	Colonial	25 0 0	36	—	—
40000	Company of African Merchants	3 0 0	3	—	—
150000	Consolidated Bank	4 0 0	5	—	—
20000	Credit Foncier and Mobilier of England	5 0 0	4	—	—
20000	East London	5 0 0	4	—	—
30000	English, Scottish, & Aust. Chart.	20 0 0	17 1/2	—	—
20000	English and Swedish	25 0 0	14 1/2	—	—
25000	General Credit and Finance of London	6 0 0	4 1/2	—	—
20000	Imperial Bank	20 0 0	24	—	—
150000	International Financial Society	5 0 0	3 1/2	—	—
50000	International Land Credit	8 0 0	2 1/2	—	—
40000	London African Trading	10 0 0	5	—	—
27500	London and Country	20 0 0	22 1/2	—	—
40000	London Financial Association	25 0 0	9 1/2	—	—
72000	London Joint-Stock	15 0 0	42	—	—
10000	London and South-Western	20 0 0	18	—	—
50000	London and Westminster	20 0 0	94	—	—
50000	Mercantile and Exchange	12 10 0	—	—	—
7156	Metropolitan and Provincial	20 0 0	10 1/2	—	—
30000	Mineral Rights Association	1 0 0	—	—	—
20000	National of Australia	15 0 0	6	—	—
20000	National of Liverpool	15 0 0	6	—	—
40000	National	20 0 0	70	—	—
50000	New South Wales	30 0 0	46	—	—
40000	Union of Australia	25 0 0	50	—	—
80000	Union of London	15 0 0	45	—	—

PROGRESSIVE MINES.

Shares.	Mines.	Paid.	Last Pr.	Bus. done.	Last Coll.
4000	Ballaclough, c. f. d.	1 10 0	—	—	—
3000	Bedford Unit, c. Tavistock	2 6 8	—	—	—
3200	Bedford Unit, c. Tavistock	1 7 0	—	—	—
200	Bulla, c. f. d.	30 0 0	—	—	—
1000	Blanchard, c. f. d.	2 0 0	—	—	—
1248	Boscawell, c. St. John	7 6 0	—	—	—
5000	Bottle Hill, c. Plymouth	1 14 6	—	—	—
200	Brynford Hall, c. Flint	28 0 0	—	—	—
5000	Bryn Gwlog, c. Flint	9 0 0	—	—	—
30000	Calbeck Fells, c. Cumber	1 10 0	—	—	—
1000	Calborne Consols, c. f. d.	18 10 0	—	—	—
11000	Capel Cornwall, c. f. d.	3000 10s. pd.	—	—	—
12000	Caradon & Phenix	2500 20s. pd.	—	—	